

**UNCLASSIFIED**

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

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604940D8Z I <i>Central Test and Evaluation Investment Program (CTEIP)</i>
--	---

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	333.769	175.908	239.163	229.125	-	229.125	213.559	176.948	175.627	178.000	Continuing	Continuing
940: <i>Central Test and Evaluation Investment Program (CTEIP)</i>	333.769	175.908	239.163	229.125	-	229.125	213.559	176.948	175.627	178.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

Since its inception in FY 1990, this program element has been used to fund the development of critically needed, high priority Test and Evaluation (T&E) capabilities for joint/multi-Service requirements. The Central Test and Evaluation Investment Program (CTEIP) uses a corporate investment approach to combine Service, Defense, and other government agencies T&E needs, maximize opportunities for joint efforts, and avoid unwarranted duplication of test capabilities. CTEIP focuses investments on projects that will have high productivity returns on investment. Projects under the CTEIP Program Element (PE) support two basic tasks: investments to improve the test capabilities base (Joint Improvement and Modernization (JIM) projects) and development of near-term solutions to test capability shortfalls in support of ongoing operational test programs (Resource Enhancement Project (REP)).

The JIM funds critically needed T&E investments in the major functional areas of: air combat; armament and munitions; Command, Control Communication, Computer and Intelligence (C4I) and networks; common range instrumentation; electronic combat; land combat; sea combat; space combat; target systems; and test environments. Examples of project subject matter include: highly accurate time-space-position information, network enhanced telemetry, miniaturized flight safety systems, realistic urban test environments, ground testing for hypersonic systems and satellites, and end-to-end testing of infrared countermeasure systems. CTEIP continues as the focal point for fostering common architectures throughout the test and training communities to enhance the sharing of resources and links between test and training ranges.

CTEIP has provided special focus to institutionalize the use of modeling and simulation (M&S) as a practical test tool; to link ranges through internetting to enhance inter-range and inter-Service cooperation and resource sharing; and, to ensure development and acquisition of common instrumentation necessary for a more efficient test infrastructure.

Analyses of alternative solutions are conducted for each investment project to validate T&E requirements, to define integrated support systems, and to determine overall cost effectiveness of the proposed test investments. The use of Department of Defense (DoD)-wide criteria for requirement validation, prioritization, and risk assessment ensures an effective test resource investment program.

The REP funds development of near-term solutions for critical ongoing operational tests supporting decisions on major, high priority defense acquisition programs. These unanticipated operational test (OT) capability requirements arise from several sources such as a new threat system identified during OT planning, acquisition of foreign military assets that are critical in determining weapon system operational effectiveness, short timelines between system design maturity and scheduled OT, and emerging technologies and test requirements resulting from operational concept changes mandated by Congress or Director, Operational Test & Evaluation (DOT&E),

**UNCLASSIFIED**

<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2016 Office of the Secretary Of Defense	<b>Date:</b> February 2015
---	----------------------------

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> / BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604940D8Z / <i>Central Test and Evaluation Investment Program (CTEIP)</i>
--	---

or system-of-systems testing. Funding these activities under the CTEIP provides the opportunity to coordinate and integrate these near-term test requirements with the total DoD test and evaluation investment planning, and ensures their availability and legacy for other programs that may have similar testing requirements.

This Research Category 6.4 PE includes special studies, analyses, and strategic planning related to test capabilities and infrastructure, and supports the development and application of proven technologies to provide major test and evaluation capabilities required to meet DoD component weapon system test requirements.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016 Base</b>	<b>FY 2016 OCO</b>	<b>FY 2016 Total</b>
Previous President's Budget	179.607	254.503	245.197	-	245.197
Current President's Budget	175.908	239.163	229.125	-	229.125
Total Adjustments	-3.699	-15.340	-16.072	-	-16.072
• Congressional General Reductions	-	-0.340			
• Congressional Directed Reductions	-	-15.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-3.623	-			
• Internal Adjustments	-0.076	-	3.928	-	3.928
• Baseline Reduced for Department Priorities	-	-	-20.000	-	-20.000

**Change Summary Explanation**

- Strategic efficiency reductions in management headquarters funding and staffing for better alignment and to provide support to a smaller military force.

NOTE: The FY 2016 funding request was reduced by \$20.000 million to account for the availability of prior year execution balances.

<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>
<b>Title:</b> Central Test and Evaluation Investment Program	175.908	239.163	229.125
<b>FY 2014 Accomplishments:</b>			
JIM Projects:			
- Completed system development for the Next Generation Electronic Warfare Environment Generator Build A project to provide a multiple jammer beam characterization system for dynamic stimulation and measurement of multiple jamming and radar signals.			
- Completed system development of the Multi-Spectral Sea and Land Target Simulator project to provide a portable open-air plume simulator to test infrared (IR) and ultraviolet (UV) missile warning and countermeasures systems against land- and sea-based threats.			

**UNCLASSIFIED**

<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2016 Office of the Secretary Of Defense	<b>Date:</b> February 2015
---	----------------------------

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604940D8Z I <i>Central Test and Evaluation Investment Program (CTEIP)</i>
--	---

<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>
<ul style="list-style-type: none"> <li>- Continued system development for the Joint Distributed Infrared Countermeasures (IRCM) Ground Test System project to provide an end-to-end ground test system enabling complete testing of IRCM systems.</li> <li>- Continued concept development and preliminary design and initiated system development for the Joint Urban Test Capability to provide urban environment test capabilities.</li> <li>- Completed requirements development and planning and initiated concept development and preliminary design for the Advanced Range Tracking and Imaging System project to provide an integrated next generation suite of optical tracking mounts needed to increase performance, reduce costs, and effectively deliver secure reliable optical throughput.</li> <li>- Completed requirements development and planning and initiated concept development and preliminary design for the Multi-Level Secure (MLS) Joint/Coalition Network Environment project to develop a standardized, DoD multi-level secure and cross-domain data management T&amp;E network architecture.</li> <li>- Continued system development for the Joint Unmanned Aircraft Systems (UAS) Mission Environment project to develop a capability for testing UAS in simulated system of systems environments.</li> <li>- Continued concept development and preliminary design for the Next Generation Electronic Warfare Environment Generator Build B project to provide electronic warfare simulation capabilities for testing future Electronic Attack and Electronic Support Measures systems.</li> <li>- Completed concept development and preliminary design and initiated systems development for the Subminiature Flight Safety System project to provide a subminiature, low-cost flight termination system with time-space-position information and data link capabilities.</li> <li>- Continued concept development and preliminary design and initiated systems development for the Integrated Network Enhanced Telemetry project Block I capability to develop a network-enhanced aeronautical telemetry capability for T&amp;E ranges and facilities.</li> <li>- Continued system development for the Objective Helicopter Icing Spray System project to provide an enhanced capability to perform in-flight icing and rain testing for low-speed air vehicles.</li> <li>- Continued system development for the Common Range Integrated Instrumentation System project to develop a common range instrumentation system to address next generation range data requirements.</li> <li>- Continued threat system simulator development efforts to improve integration, reduce potential duplication, and ensure that accurate, cost-effective representations of threat systems are available to support testing.</li> <li>- Completed requirements development and planning and initiated concept development and preliminary design the Synthetic Battlefield Emitter Systems project to provide a controlled density open air environment for testing of C4ISR systems.</li> <li>- Continued the Next Generation Range Control and Data Distribution project to enhance and modernize range control and data distribution systems at the Pacific Missile Range Facility (PMRF).</li> <li>- Continued the Electronic Warfare Test Resource Enhancement Project to develop improved electronic warfare test capabilities for fielding at Installed Systems Test Facilities, threat simulation facilities, and open air test ranges to address critical shortfalls in developmental and operational testing of F-35 and other high performance aircraft against advanced threats.</li> </ul>			

**UNCLASSIFIED**

<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2016 Office of the Secretary Of Defense	<b>Date:</b> February 2015
---	----------------------------

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604940D8Z / <i>Central Test and Evaluation Investment Program (CTEIP)</i>
--	---

<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>
---	----------------	----------------	----------------

<ul style="list-style-type: none"> <li>- Continued the Test and Training Enabling Architecture Software Development Activity to promote integrated testing and simulation-based acquisition through the use of a logical range consisting of distributed live, virtual, and constructive elements tied together by a common architecture.</li> <li>- Completed requirements development and planning and initiated concept development and preliminary design for the Vertical Electromagnetic Pulse (EMP) and High Power Microwave (HPM) Test Sources project to provide vertical high-altitude EMP and HPM external electromagnetic environments for testing in accordance with applicable Military Standards.</li> <li>- Initiated Mid-Pressure Arc Heater prototype effort to support development of hypersonic ground test facilities for future high-speed systems.</li> <li>- Initiated requirements development and planning for the Network Centric Weapon (NCW) T&amp;E Environment project to provide an enhanced capability to test and evaluate NCW in a distributed simulation environment.</li> <li>- Initiated requirements development and planning for the Cyber Test Analysis and Simulation Environment project to enhance current Information Assurance / Cyber testing and analysis capabilities and modeling and simulations tools for testing against increasingly robust Cyber threats.</li> <li>- Initiated requirements development and planning for the Commercial Derivative Aircraft Based Instrumentation Telemetry System project to provide expanded capability and capacity telemetry support for aircraft and missile defense testing in inter-range and broad ocean area test scenarios.</li> <li>- Initiated the Knowledge Management (KM) project to establish a next-generation KM capability that utilizes the latest in virtualization technologies, methodologies, and best practices for efficient and effective use of T&amp;E data.</li> <li>- Initiated the Common Development Environment project to combine the specifications, models, tools, policy, and best practices needed to enhance interoperability among live, virtual, and constructive T&amp;E capabilities throughout the acquisition lifecycle.</li> <li>- Continued risk reduction activities under the Enhanced Solutions Process for potential multi-service T&amp;E developments, as recommended by Service Test and Evaluation Executives.</li> </ul> <p>Resource Enhancement Project:</p> <ul style="list-style-type: none"> <li>- Continued development of Hostile Fire Indicator Site (HFIS) to enhance existing Hostile Fire Indicator test site with key upgrades to fully facilitate HFI testing of warning systems.</li> <li>- Continued development of Mobile Flight Mission Simulator (mFMS) Advanced Electronic Attack (AEA) to provide realistic electronic attack capabilities into PATRIOT Flight Mission Simulators.</li> <li>- Completed delivery of the J-31 Radar Missile Gun System project.</li> <li>- Continued development of DIADS Weapons Control (DWC) to develop new Integrated Air Defense (IADS) weapons control algorithms in the Digital IADS (DIADS) used in the F-35 Virtual Simulator (VSIM).</li> <li>- Continued development of Torpedo Operational Testing Using Modeling and Simulation (TOTUMS) to enhance torpedo OT&amp;E by upgrading an high interest target list (HITL) simulator and environment simulator for high-fidelity, OT-ready realism.</li> </ul>			
--	--	--	--

**UNCLASSIFIED**

<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2016 Office of the Secretary Of Defense	<b>Date:</b> February 2015
---	----------------------------

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604940D8Z / <i>Central Test and Evaluation Investment Program (CTEIP)</i>
--	---

<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>
<ul style="list-style-type: none"> <li>- Continued development of C2 and Urban Background Environment Simulator (CUBES) to incorporate modern signal processor advances for Installed System Test Facility communications jamming purposes.</li> <li>- Continued development of Boosted Zombie Target (BZT) to develop multi-stage, economical targets for PAC-3 by integrating a government-furnished equipment (GFE) booster to blue "Zombie" maneuvering target.</li> <li>- Continued development of Joint Standard Instrumentation Suite (JSIS) to measure and collect signature, time-space-position information (TSPI), and related data of threat missile and hostile fire munitions (e.g., small arms and RPG) firings to support evaluation of the Joint Allied Threat Awareness System.</li> <li>- Continued the Automated Test Case Generator Web Service (ATC-GEN WS) to provide JITC with the capability to develop Ballistic Missile Defense System (BMDS) and Mode 5 IFF MIL-STD-6016E compliance test cases and an automated test tool on a test network.</li> <li>- Initiated the DIADS Sensor Reactivity Upgrade (SRU) to upgrade DIADS radars with enhanced electronic countermeasures (ECM) response features in support of Joint Strike Fighter (JSF) and F-22 operational testing.</li> <li>- Initiated the Wideband Configurable Control Jammer (WCCJ) Enhancement to develop and integrate an Electronic Support Measures (ESM) subsystem into WCCJ, thus improving its ability to monitor and prioritize signals during Network Integrated Exercise events.</li> </ul> <p><b>FY 2015 Plans:</b> JIM Projects:</p> <ul style="list-style-type: none"> <li>- Continue concept development and preliminary design for the Advanced Range Tracking and Imaging System project to provide an integrated next generation suite of optical tracking mounts needed to increase performance, reduce costs, and effectively deliver secure reliable optical throughput.</li> <li>- Complete concept development and preliminary design and initiate system development for the Multi-Level Secure (MLS) Joint/Coalition Network Environment project to develop a standardized, DoD multi-level secure and cross-domain data management T&amp;E network architecture.</li> <li>- Complete system development for the Joint Unmanned Aircraft Systems (UAS) Mission Environment project to develop a capability for testing UAS in simulated system of systems environments.</li> <li>- Continue system development of the Integrated Network Enhanced Telemetry project Block I capability to develop a network-enhanced aeronautical telemetry capability for T&amp;E ranges and facilities.</li> <li>- Complete the Next Generation Range Control and Data Distribution project to enhance and modernize range control and data distribution systems at the Pacific Missile Range Facility (PMRF).</li> <li>- Continue systems development for the Common Range Integrated Instrumentation System project to develop a common range instrumentation system to address next generation range data requirements.</li> <li>- Continue concept development and preliminary design for the Joint Urban Test Capability to provide urban environment test capabilities.</li> </ul>			

**UNCLASSIFIED**

<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2016 Office of the Secretary Of Defense	<b>Date:</b> February 2015
---	----------------------------

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604940D8Z / <i>Central Test and Evaluation Investment Program (CTEIP)</i>
--	---

<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>
<ul style="list-style-type: none"> <li>- Complete concept development and preliminary design and initiate system development for the Next Generation Electronic Warfare Environment Generator Build B project to provide electronic warfare simulation capabilities for testing future Electronic Attack and Electronic Support Measures systems.</li> <li>- Continue system development of the Subminiature Flight Safety System project to provide a subminiature, low-cost flight termination system with time-space-position information and data link capabilities.</li> <li>- Continue threat system simulator development efforts to improve integration, reduce potential duplication, and ensure that accurate, cost-effective representations of threat systems are available to support testing.</li> <li>- Complete concept development and preliminary design and initiate system development for the Synthetic Battlefield Emitter Systems project to provide a controlled density open air environment for testing of C4ISR systems.</li> <li>- Complete concept development and preliminary design and initiate system development for the Vertical Electromagnetic Pulse (EMP) and High Power Microwave (HPM) Test Sources project to provide vertical high-altitude EMP and HPM external electromagnetic environments for testing in accordance with applicable Military Standards.</li> <li>- Continue the Network Centric Weapon (NCW) T&amp;E Environment project to provide an enhanced capability to test and evaluate NCW in a distributed simulation environment.</li> <li>- Continue the Cyber Test Analysis and Simulation Environment project to enhance current Information Assurance / Cyber testing and analysis capabilities and modeling and simulations tools for testing against increasingly robust Cyber threats.</li> <li>- Continue the Electronic Warfare Test Resource Enhancement Project to develop improved electronic warfare test capabilities for fielding at Installed Systems Test Facilities, threat simulation facilities, and open air test ranges to address critical shortfalls in developmental and operational testing of F-35 and other high performance aircraft against advanced threats.</li> <li>- Continue the Test and Training Enabling Architecture Software Development Activity to promote integrated testing and simulation-based acquisition through the use of a logical range consisting of distributed live, virtual, and constructive elements tied together by a common architecture.</li> <li>- Continue the Knowledge Management (KM) project to establish a next-generation KM capability that utilizes the latest in virtualization technologies, methodologies, and best practices for efficient and effective use of T&amp;E data.</li> <li>- Continue the Common Development Environment project to combine the specifications, models, tools, policy, and best practices needed to enhance interoperability among live, virtual, and constructive T&amp;E capabilities throughout the acquisition lifecycle.</li> <li>- Initiate concept development and preliminary design for the Commercial Derivative Aircraft Based Instrumentation Telemetry System project to provide expanded capability and capacity telemetry support for aircraft and missile defense testing in inter-range and broad ocean area test scenarios.</li> <li>- Continue system development for the Joint Distributed Infrared Countermeasures (IRCM) Ground Test System project to provide an end-to-end ground test system enabling complete testing of IRCM systems.</li> <li>- Continue risk reduction activities under the Enhanced Solutions Process for potential multi-service T&amp;E developments, as recommended by Service Test and Evaluation Executives.</li> </ul>			

**UNCLASSIFIED**

<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2016 Office of the Secretary Of Defense	<b>Date:</b> February 2015
---	----------------------------

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604940D8Z I <i>Central Test and Evaluation Investment Program (CTEIP)</i>
--	---

<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>
<p>Resource Enhancement Project:</p> <ul style="list-style-type: none"> <li>- Complete development of Hostile Fire Indicator Site (HFIS) to enhance existing Hostile Fire Indicator test site with key upgrades to fully facilitate HFI testing of warning systems.</li> <li>- Complete development of C2 and Urban Background Environment Simulator (CUBES) to incorporate modern signal processor advances for Installed System Test Facility communications jamming purposes.</li> <li>- Continue development of Boosted Zombie Target (BZT) to develop multi-stage, economical targets for PAC-3 by integrating a GFE booster to blue "Zombie" maneuvering target.</li> <li>- Continue the DIADS Sensor Reactivity Upgrade (SRU) to upgrade DIADS radars with enhanced ECM response features in support of JSF and F-22 operational testing.</li> <li>- Complete the Wideband Configurable Control Jammer (WCCJ) Enhancement to develop and integrate an Electronic Support Measures (ESM) subsystem into WCCJ, thus improving its ability to monitor and prioritize signals during Network Integrated Exercise events.</li> <li>- Continue development of Joint Standard Instrumentation Suite (JSIS) to measure and collect signature, TSPI, and related data of threat missile and hostile fire munitions (e.g., small arms and RPG) firings to support evaluation of the Advance Threat Warning (ATW) system.</li> <li>- Complete the Automated Test Case Generator Web Service (ATC-GEN WS) to provide JITC with the capability to develop BMDS and Mode 5 IFF MIL-STD-6016E compliance test cases and an automated test tool on a test network.</li> <li>- Continue development of Torpedo Operational Testing Using Modeling and Simulation (TOTUMS) to enhance torpedo OT&amp;E by upgrading an HITL simulator and environment simulator for high-fidelity, OT-ready realism.</li> <li>- Complete development of DIADS Weapons Control (DWC) to develop new Integrated Air Defense (IADS) weapons control algorithms in the Digital IADS (DIADS) used in the F-35 Virtual Simulator (VSIM).</li> <li>- Initiate development of MSALTS Ultraviolet Emitter Enhancement (MUVEE) - Upgrades to Multi Spectral Sea and Land Target Simulator (MSALTS) with LED-based UV source for short shot hostile fire IRCM end-to-end threat engagements.</li> <li>- Initiate development of Submarine Launched Modular 3-inch Device (SLAM-3D)- Cluster Donut countermeasure emulator that will help resolve the Anti-Submarine Warfare COI for the Mk 54 Mod 1 Torpedo.</li> <li>- Initiate development of Airborne Early Warning Interoperability Simulator (AEIS)- Develops the hardware and software necessary to generate a properly spaced, dense target and ECM environment for injection-mode Installed Systems Test Facility testing of the E-2D Hawkeye mission system.</li> </ul> <p><b>FY 2016 Plans:</b></p> <p>JIM Projects:</p> <ul style="list-style-type: none"> <li>- Complete concept development and preliminary design and initiate system development for the Advanced Range Tracking and Imaging System project to provide an integrated next generation suite of optical tracking mounts needed to increase performance, reduce costs, and effectively deliver secure reliable optical throughput.</li> </ul>			

**UNCLASSIFIED**

<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2016 Office of the Secretary Of Defense	<b>Date:</b> February 2015
---	----------------------------

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604940D8Z / <i>Central Test and Evaluation Investment Program (CTEIP)</i>
--	---

<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>
<ul style="list-style-type: none"> <li>- Continue system development for the Multi-Level Secure (MLS) Joint/Coalition Network Environment project to develop a standardized, DoD multi-level secure and cross-domain data management T&amp;E network architecture.</li> <li>- Continue system development of the Integrated Network Enhanced Telemetry project Block I capability to develop a network-enhanced aeronautical telemetry capability for T&amp;E ranges and facilities.</li> <li>- Complete system development for the Common Range Integrated Instrumentation System project to develop a common range instrumentation system to address next generation range data requirements.</li> <li>- Continue concept development and preliminary design and initiate system development for the Joint Urban Test Capability to provide urban environment test capabilities.</li> <li>- Continue system development for the Next Generation Electronic Warfare Environment Generator Build B project to provide electronic warfare simulation capabilities for testing future Electronic Attack and Electronic Support Measures systems.</li> <li>- Continue system development of the Subminiature Flight Safety System project to provide a subminiature, low-cost flight termination system with time-space-position information and data link capabilities.</li> <li>- Continue threat system simulator development efforts to improve integration, reduce potential duplication, and ensure that accurate, cost-effective representations of threat systems are available to support testing.</li> <li>- Continue system development for the Synthetic Battlefield Emitter Systems project to provide a controlled density open air environment for testing of C4ISR systems.</li> <li>- Complete system development for the Vertical Electromagnetic Pulse (EMP) and High Power Microwave (HPM) Test Sources project to provide vertical high-altitude EMP and HPM external electromagnetic environments for testing in accordance with applicable Military Standards.</li> <li>- Continue the Network Centric Weapon (NCW) T&amp;E Environment project to provide an enhanced capability to test and evaluate NCW in a distributed simulation environment.</li> <li>- Continue the Cyber Test Analysis and Simulation Environment project to enhance current Information Assurance / Cyber testing and analysis capabilities and modeling and simulations tools for testing against increasingly robust Cyber threats.</li> <li>- Continue the Electronic Warfare Test Resource Enhancement Project to develop improved electronic warfare test capabilities for fielding at Installed Systems Test Facilities, threat simulation facilities, and open air test ranges to address critical shortfalls in developmental and operational testing of F-35 and other high performance aircraft against advanced threats.</li> <li>- Initiate system development for the Commercial Derivative Aircraft Based Instrumentation Telemetry System project to provide expanded capability and capacity telemetry support for aircraft and missile defense testing in inter-range and broad ocean area test scenarios.</li> <li>- Continue system development for the Joint Distributed Infrared Countermeasures (IRCM) Ground Test System project to provide an end-to-end ground test system enabling complete testing of IRCM systems.</li> <li>- Continue the Test and Training Enabling Architecture Software Development Activity to promote integrated testing and simulation-based acquisition through the use of a logical range consisting of distributed live, virtual, and constructive elements tied together by a common architecture.</li> </ul>			

**UNCLASSIFIED**

<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2016 Office of the Secretary Of Defense	<b>Date:</b> February 2015
---	----------------------------

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604940D8Z / <i>Central Test and Evaluation Investment Program (CTEIP)</i>
--	---

<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>
<ul style="list-style-type: none"> <li>- Continue the Knowledge Management (KM) project to establish a next-generation KM capability that utilizes the latest in virtualization technologies, methodologies, and best practices for efficient and effective use of T&amp;E data.</li> <li>- Continue the Common Development Environment project to combine the specifications, models, tools, policy, and best practices needed to enhance interoperability among live, virtual, and constructive T&amp;E capabilities throughout the acquisition lifecycle.</li> <li>- Initiate requirements development and planning for new multi-service T&amp;E developments endorsed by the DoD T&amp;E Executive Agent.</li> <li>- Continue risk reduction activities under the Enhanced Solutions Process for potential multi-service T&amp;E developments, as recommended by Service Test and Evaluation Executives.</li> </ul> <p>Resource Enhancement Project:</p> <ul style="list-style-type: none"> <li>- Complete development of Torpedo Operational Testing Using Modeling and Simulation (TOTUMS) to enhance torpedo OT&amp;E by upgrading an HITL simulator and environment simulator for high-fidelity, OT-ready realism.</li> <li>- Complete development of Boosted Zombie Target (BZT) to develop multi-stage, economical targets for PAC-3 by integrating a GFE booster to blue "Zombie" maneuvering target.</li> <li>- Complete development of Joint Standard Instrumentation Suite (JSIS) to measure and collect signature, TSPI, and related data of threat missile and hostile fire munitions (e.g., small arms and RPG) firings to support evaluation of the Joint Allied Threat Awareness System.</li> <li>- Complete the Automated Test Case Generator Web Service (ATC-GEN WS) to provide JITC with the capability to develop BMDS and Mode 5 IFF MIL-STD-6016E compliance test cases and an automated test tool on a test network.</li> <li>- Complete the DIADS Sensor Reactivity Upgrade (SRU) to upgrade DIADS radars with enhanced ECM response features in support of JSF and F-22 operational testing.</li> <li>- Complete development of Joint Standard Instrumentation Suite (JSIS) to measure and collect signature, TSPI, and related data of threat missile and hostile fire munitions (e.g., small arms and RPG) firings to support evaluation of the ATW- Advance Threat Warning.</li> <li>- Continue development of MSALTS Ultraviolet Emitter Enhancement (MUVEE) - Upgrades to Multi Spectral Sea and Land Target Simulator (MSALTS) with LED-based UV source for short shot hostile fire IRCM end-to-end threat engagements.</li> <li>- Continue development of Submarine Launched Modular 3-inch Device (SLAM-3D)- Cluster Donut countermeasure emulator that will help resolve the Anti-Submarine Warfare COI for the Mk 54 Mod 1 Torpedo.</li> <li>- Continue development of Airborne Early Warning Interoperability Simulator (AEIS)- Develops the hardware and software necessary to generate a properly spaced, dense target and ECM environment for injection-mode Installed Systems Test Facility testing of the E-2D Hawkeye mission system.</li> <li>- Continue development of instrumented facilities to evaluate our next generation of sensors, weapons, platforms, and C4ISR systems in a realistic urban environment.</li> </ul>			

**UNCLASSIFIED**

<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2016 Office of the Secretary Of Defense	<b>Date:</b> February 2015
---	----------------------------

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604940D8Z I <i>Central Test and Evaluation Investment Program (CTEIP)</i>
--	---

<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>
<ul style="list-style-type: none"> <li>- Continue development of hardware simulators to test missile warning systems of new generation electronic warfare (EW) suites in a dynamic environment.</li> <li>- Continue the development of non-intrusive instrumentation to address near term OT capability shortfalls to evaluate advanced sensor system performance in harsh environments.</li> </ul>			
<b>Accomplishments/Planned Programs Subtotals</b>	175.908	239.163	229.125

**D. Other Program Funding Summary (\$ in Millions)**

N/A

**Remarks**

**E. Acquisition Strategy**

N/A

**F. Performance Metrics**

A portion of CTEIP projects that were developed and delivered to the DoD test community over the past five years.