Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Operational Test and Evaluation, Defense	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0460: *Operational Test and Evaluation, Defense* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0605814OTE: *Operational Test Activities and Analyses*

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	118.101	122.581	118.722	-	118.722	121.012	119.864	121.863	121.784	Continuing	Continuing
1: *OTA&A*	118.101	122.581	118.722	-	118.722	121.012	119.864	121.863	121.784	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element consists of two programs: Test and Evaluation (T&E) Programs and T&E Independent Activities.

The Test and Evaluation programs are continuing efforts that provide management and oversight of test and evaluation functions and expertise to the Department of Defense (DoD). The T&E programs consist of five activities: Joint Test and Evaluation (JT&E); Threat Systems (TS); Center for Countermeasures (CCM); Joint Technical Coordinating Group for Munitions Effectiveness (JTCG/ME); and Joint Aircraft Survivability Program (JASP).

Joint Test and Evaluation projects are test and evaluation activities conducted in a joint military environment that develop process improvements. These multi-Service projects, chartered by the Office of the Secretary of Defense and coordinated with the Joint Staff, appropriate combatant commanders, and the Services, provide non-materiel solutions that improve: joint interoperability of Service systems, technical and operational concepts, joint operational issues, development and validation of joint test methodologies, and test data for validating models, simulations, and test beds. The JT&E projects address relevant joint war fighting issues in a joint test and evaluation environment by developing and providing new tactics, techniques, and procedures to improve joint test capabilities and methodologies.

Threat Systems, based on a memorandum of agreement between the Director, Operational Test and Evaluation (DOT&E) and the Defense Intelligence Agency, provides DOT&E support in the areas of threat resource analysis, intelligence support and threat systems investments. Threat Systems provides threat resource analyses on the availability, capabilities and limitations of threat representations (threat simulators, targets, models, U.S. surrogates and foreign materiel) and analysis of test resources used for operational testing to support DOT&E's assessment of the adequacy of testing for those programs designated for oversight by DOT&E and the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics (OUSD(AT&L)). Threat Systems provides DOT&E assessment officers with program specific threat intelligence support. Threat Systems also funds management, oversight, and development of common-use threat specifications for threat simulators, threat representative targets, and digital threat models used for test and evaluation.

The Center, a Joint Service Countermeasure (CM) Test and Evaluation Center, serves as DoD's independent tester for CM assessments of U.S. and foreign precision guided weapons (PGWs) and sensor systems, CMs, counter-countermeasures (CCMs), and warning devices. The Center provides assessments, including test activities, analysis of test results, and consulting expertise, that benefit the Services, joint activities, T&E Agencies, the Intelligence Community, Homeland Defense, Operation Iraqi Freedom and Operation Enduring Freedom (quick reaction response). The Center identifies current weaknesses and limitations of systems and, through carefully developed test and assessment methodologies, provides the basis for understanding how systems might be affected by CMs in the battlefield. The Center's staff and CM knowledge base, developed for more than 35 years, provides the DoD acquisition community and the Combatant Commanders with the information and expertise necessary for survival of U.S. forces on the modern battlefield.

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The Joint Logistics Commanders Joint Technical Coordinating Group for Munitions Effectiveness (JTCG/ME) was chartered more than 30 years ago to serve as DoD's focal point for munitions effectiveness information Joint Munitions Effectiveness Manuals (JMEMs) on all major non-nuclear U.S. weapons. JTCG/ME authenticates weapons effectiveness data for use in training, systems acquisition, weapon procurement, and combat modeling and simulation. JMEMs are used by the Armed Forces of the U.S., NATO, and other allies to plan operational missions, support training and tactics development, and support force-level analyses. JTCG/ME also develops and standardizes methodologies for evaluation of munitions effectiveness and maintains databases for target vulnerability, munitions lethality, and weapon system accuracy. Operational lessons learned (Enduring Freedom and Iraqi Freedom), Combatant Commands, Services, Military Targeting Committee, and Operational Users Working Groups input for specific weapon-target pairings and methodologies continue to drive JMEM requirements and development processes.

The Joint Aircraft Survivability Program is the DoD's focal point for joint service enhancement of military aircraft non-nuclear survivability. The JASP is chartered by the commanders of the USN Naval Air Systems Command, USA Aviation and Missile Command and USAF Aeronautical Systems Center to coordinate and conduct RDT&E to improve military aircraft survivability, develop and standardize aircraft survivability modeling and simulation (M&S), facilitate information exchange on aircraft survivability and support aircraft survivability education for the DoD and U.S. aircraft community. Each chartering command provides a senior aircraft survivability expert for the JASP Principal Members Steering Group (PMSG), which guides the program and approves projects for funding. The JASP assesses and reports on combat damage incidents through the Joint Combat Assessment Team (JCAT), is the Executive Agent for the Joint Live Fire Aircraft Systems Program managed by the Live Fire Test office of DOT&E and is also an Executive Agent for the Survivability Vulnerability Information Analysis Center (SURVIAC), the repository for aircraft survivability information.

The Test and Evaluation Independent Activities program is the only source of funding for DOT&E studies, analyses, and management to provide continuing support of policy development oversight of the DoD test and evaluation practices, infrastructure and resources; and transformation of test methods and infrastructure to ensure future defense systems provide necessary joint warfighting capabilities. Studies and analyses examine the implications and consequences of current and proposed policy, plans, operations, strategies, and budgets and are essential for the accomplishment of the DOT&E mission. This program element funds travel in support of its activities.

This Program Element was reduced in FY 2012 and the outyears as part of the Secretary's Task Force on Efficiencies.

This program element is budgeted in Budget Activity 6, RDT&E Management Support, to support management activities for the DOT&E oversight responsibility for test and evaluation and test and evaluation resources.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Operational Test and Evaluation, Defense	DATE: February 2011
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B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	118.101	122.581	124.524	-	124.524
Current President's Budget	118.101	122.581	118.722	-	118.722
Total Adjustments	-	-	-5.802	-	-5.802
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Cost Efficiency Reduction	-	-	-3.928	-	-3.928
• Eliminate Stand-alone Integrated Test Resources Analyses Team	-	-	-0.400	-	-0.400
• Terminate Testing in Joint Environment Roadmap Program	-	-	-1.528	-	-1.528
• Eliminate Support to Modeling and Simulation	-	-	-0.200	-	-0.200
• Increase Funding for Joint Test and Evauation Studies and Tasks	-	-	0.811	-	0.811
• Other Funding Realignments	-	-	-0.557	-	-0.557

Exhibit R-2A, RDT&E Project Justification: PB 2012 Operational Test and Evaluation, Defense			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0460: *Operational Test and Evaluation, Defense* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605814OTE: *Operational Test Activities and Analyses*	PROJECT 1: *OTA&A*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
1: *OTA&A*	118.101	122.581	118.722	-	118.722	121.012	119.864	121.863	121.784	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This program element consists of two programs: Test and Evaluation (T&E) Programs and T&E Independent Activities.

The Test and Evaluation programs are continuing efforts that provide management and oversight of test and evaluation functions and expertise to the Department of Defense (DoD). The T&E programs consist of five activities: Joint Test and Evaluation (JT&E); Threat Systems (TS); Center for Countermeasures (CCM); Joint Technical Coordinating Group for Munitions Effectiveness (JTCG/ME); and Joint Aircraft Survivability Program (JASP).

The Test and Evaluation Independent Activities program is the only source of funding for DOT&E studies, analyses, and management to provide continuing support of policy development oversight of the DoD test and evaluation practices, infrastructure and resources; and transformation of test methods and infrastructure to ensure future defense systems provide necessary joint warfighting capabilities. Studies and analyses examine the implications and consequences of current and proposed policy, plans, operations, strategies, and budgets and are essential for the accomplishment of the DOT&E mission. This program element funds travel in support of its activities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: Operational Test Activities and Activities	118.101	122.581	118.722
FY 2010 Accomplishments: Joint Test and Evaluation (JT&E) In FY 2010 JT&E had two projects close down, both of which started in FY 2007. Seven projects are ongoing that were initiated between FY 2007 and FY 2009. The Joint Non-Kinetic Effects Integration Joint Test, closed September 2010, developed the tactics, techniques, and procedures to integrate electronic, computer network attacks, and space control operations during time sensitive planning activities against adversary control systems and associated infrastructures and processes. Another project that closed in FY 2010 was the Joint Electronic Protection for Air Combat Joint Test. It developed the system architecture and processes to allow a pilot to receive information from joint military assets when the pilot's electronic equipment is being subjected to advanced electronic attack. One of the ongoing projects, Joint Air Defense Operations-Homeland, concentrates on two aspects of planning the use of deployable air and cruise missile defense assets: the effective use of combined (U.S. and Canadian) air and cruise missile defense capabilities to defeat asymmetric aerial threats; and, interagency planning to incorporate air and cruise missile defense capabilities. On a continual basis, JT&E reviews nominations for new projects, manages ongoing projects, and ensures that closing projects are debriefed and that final reports are distributed to the appropriate Service organizations.			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Threat Systems During FY 2010, Threat Systems completed development of standard, DIA-validated airborne jammer models for use throughout the Department to evaluate effects on U.S. aircraft; evaluated proposals to develop and implement a more robust open-air threat environment to make operational testing more realistic; continued to address testing against advanced threats that may be encountered in such countries as Iran and China; and initiated a project to obtain data to support fielding of upgraded hostile fire indicator systems for use in Iraq and Afghanistan. Threat Systems continued test planning working group participation to identify threat shortfalls; conducted special studies and provided current intelligence support tailored to specific U.S. weapon systems acquisition; demonstrated test facility connectivity for enhanced weapons systems testing and improving end-to-end testing of U.S. threat warning and countermeasures systems. These efforts continued to develop threat test assets used for testing in a joint test environment; continued with the third year of a four-year project to integrate current intelligence community-based missile models into all DoD Hardware-In-The-Loop countermeasure test facilities; successfully demonstrated the ability of recently developed standards for target control interfaces to control sub-scale aerial targets; completed the design and analysis phase to develop a set of prototype designs for a cost effective full-scale aerial target that embodies the critical attributes of future 5th generation threat fighter aircraft; and performed a comprehensive requirements analysis for a new full-scale rotary wing target. These activities help DOT&E carry out its Title 10 responsibilities to assess test adequacy and determine whether testing is realistic and suitable and promotes common solutions to Service threat representation needs. Center for Countermeasures (the Center) The Center tested, analyzed, and reported on more than 29 electro-optical systems with special emphasis on rotary wing survivability, CMs/ counter-countermeasures (CCMs) employment, warning and targeting systems and precision guided weapons (PGWs) . Each program supported received an independent assessment of our findings and test support for CM/ Counter-countermeasures (CCM) evaluations. Approximately 83% of the programs that received support were under DOT&E oversight or were subsystems on DOT&E oversight platforms. Sixty percent of the Center level of effort was concentrated on rotary and fixed wing, 30% on hostile fire indicators, and 10% of effort were PGW and small programs. Approximately 73% of the Center effort was focused on overseas contingency operations (OCO) support. The Center continued development of the Central Test and Evaluation Investment Program (CTEIP) sponsored, Joint Mobile IRCM Threat System (JMITS), Towed Aerial Plume Simulator (TAPS) and Multi-Spectral Sea and Land Target Simulator (MSALTS) that will be used in support of testing for both			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title 10 programs and OCO aircraft survivability equipment (ASE) urgent operational needs. The Center's support was distributed across all the Services as well as intelligence agencies and research and development activities. The Center provided expertise to many organizations and was actively involved in the following panels: Foreign Material Exploitation Working Group, Foreign Material Program Test and Evaluation (T&E) Subcommittee, Joint Project Mallari Working Group, Joint Expendable Countermeasures (JECM) Integrated Product Team, Joint Infrared Countermeasures Multi Sensing Symposia Working Group, Joint Aircraft Survivability Program (JASP), Joint Countermeasures T&E Working Group (JCMT&E WG), and JCMT&E WG Hostile Fire Indicator (HFI) subgroup lead. Joint Technical Coordinating Group for Munitions Effectiveness (JTCG/ME) In support of operational commanders, DoD targeteers, weaponeers, and planners, the JTCG/ME developed and released JMEM Weaponeering System (JWS) v2.0.1 in November 2009. In addition, development of JWS v2.1 continued throughout FY 2010. Joint-Antiair Combat Effectiveness System (J-ACE) Air Superiority (AS) v4.1 was released in October 2010. JWS v2.0.1 included an additional 140 high priority CoCOM target requirements, as well as new/updated delivery accuracies for 14 systems. JWS v2.1 will contain a significant methodology update for assessing infrastructure targets, new target data, weapons data and delivery accuracies. J-ACE v4.1 contained additional threat Surface-to-Air (SAM) Flyout Models (FOMs), additional threat Air-to-Air missile FOMs and improved Blue Air-to-Air missile FOMs. JWS v2.1 will contain the Fast Integrated Structural Tool (FIST). FIST is the future JMEM operational-level tool that incorporates the integral modules from Building Analysis Module (BAM) and Hardened Target Module (HTM) to create a merged tool that generates weapon effectiveness and damage assessments against infrastructure targets to include buildings, bunkers, and tunnels. In addition, JWS v2.1 release will contain approximately 180 new/updated targets, 15 new/updated munitions, new Explosive Equivalent Weights based on blast testing and an improved 3-D viewer. J-ACE 4.1 was released in October 2010. Weapon Engagement Zone (WEZ) software, consistent with Operational Flight Programs in the currently fielded fighter fleet was provided for U.S. missiles; NASIC “FrankenWEZ” software was used for threat aircraft missile engagement zone determination. New or updated air-to-air missile simulations were added for the US AIM-7, AIM-9, and AIM-120 and NASIC threat AA-12, Magic 2, and PL-12. Sixteen new or improved MSIC threat surface-to-air missiles (SAM) were also added. Software changes continued to better support operational user requirements; and, interface with other models, simulations, training range telemetry and mission planning system software.			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
FY 2010 continued the development and refinement of Joint Blast Analysis Model (JBAM) and strengthens its supporting documentation. Additional damage modules were implemented in JBAM as well as several refinements to user functionality and meta-ball creation. In order to increase the functionality of JBAM, blast meta-ball contours was developed for representative CoCOM high priority targets within the military truck category. Additionally, JTCG/ME developed a strategy on possible implementation of Operational Requirement-based Casualty Assessment (ORCA) for use by the JTCG/ME community in evaluating the capability of weapon systems to result in personnel complete loss of function. JMEM will assessed fielded and emerging Information Operations (IO), Directed Energy (DE) and Non-lethal (NL) weapons to feed an Effects Based Operations (EBO) evaluation capability. The scope includes weapon characterization, coordinating test data development and providing operational tools for the IO elements of Computer Network Attack and Electronic Warfare; Laser and Radio Frequency DE; and, NL systems against materiel and personnel targets. This weapon effectiveness and associated confidence level data are critical enablers for application of these weapons as it will provide senior leaders and warfighters with information to develop policy and concepts of operations for their use. JMEM information has been a requirement to support conventional weapon system fielding; this expansion will support IO, DE and NL weapon fielding. Joint Aircraft Survivability Program (JASP) In FY 2010 the JASP continued work on 30 multi-year RDT&E projects and initiated 17 new projects approved by the JASP Principal Members Steering Group and OSD/DOT&E. In the area of susceptibility reduction, the JASP addressed improving directed energy infrared countermeasures, electronic countermeasures technology and techniques, aircrew situational awareness and immediate operator needs. In the area of vulnerability reduction, the JASP continued to address requirements for lighter and more effective armor, fuel containment, fire suppression; and aircrew and passenger protection. In aircraft survivability Modeling and Simulation (M&S), the JASP continued to improve survivability M&S credibility, address operator requirements for survivability data, integrate DIA threat missile models into threat engagement codes, improve the assessment of aircrew and passenger injuries, and address M&S requirements identified by the joint aircraft survivability community. The JASP published 31 reports documenting projects completed in FY 2010. The Joint Combat Assessment Team (JCAT) continued to support the Air Force, Army, Marine Corps and Navy by assessing combat damage incidents, training operators on threat effects and combat damage assessment, and reporting their findings to combatant commanders and the DoD science and technology and acquisition communities. The JASP continued supporting aircraft survivability education and information exchange through internet sites (restricted access and classified), by publishing the Aircraft Survivability Journal, developing educational materials and conducting training for the DoD and their contractors.			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Test and Evaluation Independent Activities FY 2010 funds were used to provide continuing support of policy development oversight of the DoD test and evaluation practices, infrastructure and resources; and transformation of test methods and infrastructure to ensure future defense systems provide necessary joint warfighting capabilities. Funding was used to support the development of technical alternatives on issues affecting test and evaluation resources and infrastructure. This program element funds travel in support of its activities. This program element is budgeted in Budget Activity 6, RDT&E Management Support, to support management activities for the DOT&E oversight responsibility for test and evaluation and test and evaluation resources. ***FY 2011 Plans:*** Joint Test and Evaluation (JT&E) In FY 2011 JT&E has three projects slated for closing and an estimated four projects ongoing from FY 2009 and FY 2010. The Joint Civil Information Management Joint Test, scheduled to close in FY 2011, is developing joint tactics, techniques, and procedures to collect, consolidate, and share civil information at the tactical and operational levels so that the joint task force commander will have better information to plan operations. The other project scheduled to close in FY 2011 is Joint Data Integration. This project researches, tests, and evaluates the tactics, techniques, and procedures for use in standardizing the common tactical picture by addressing the quality of: duplicate tracks, time latency, common operational picture synchronization, channel disruptions, position/location discrepancies, and naming schema discrepancies. On a continual basis, JT&E reviews nominations for new projects, manages ongoing projects, and ensures that closing projects are debriefed and that final reports are distributed to the appropriate Service organizations. Threat Systems Threat Systems will complete the four-year project to integrate current intelligence community-based missile models into all DoD Hardware-In-The-Loop countermeasure test facilities, continue test planning working group participation to identify threat shortfalls; conduct special studies and provide current intelligence support tailored to specific U.S. weapon systems acquisition; develop an unmanned aerial vehicle Global Positioning Satellite jamming capability using micro jammers to increase threat realism at our test ranges, and use existing live fire data to verify and compare MANPAD laboratory and hardware-in-the-loop facility testing capabilities to increase our confidence in using other than open air live fire events for operational testing. New initiatives for FY 2011 include integration of authoritative, DIA-approved models into simulations used for testing advanced systems in an integrated air defense network; data collection to support the development of a hostile fire signature model for use			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012

in testing new hostile fire indicator technologies being developed by the Army and Navy; investigations into digital radio frequency memory use against threat air defense systems, next generation GPS jammers and their potential impact of US weapon systems; and translation of all source technical intelligence on a battle management and command, control, communications and computer system into a model to support test and evaluation.

Target initiatives include: continuing the development of human profile targets for realistic testing of non-lethal weapons affects on crowds and opposition forces; completing the development of an upgrade to the Torpedo Proximity Scoring System; supporting risk reduction activities associated with the 5th generation full-scale aerial target prototype development; completing the development and initial testing of a prototype holographic radar system for use in scoring test events against moving land and sea surface targets; and initiating a series of flight demonstrations and analysis of candidate full-scale rotary wing target prototypes.

These activities help DOT&E carry out its Title 10 responsibilities to assess test adequacy and determine whether testing is realistic and suitable and promotes common solutions to Service threat representation needs.

Center for Countermeasures (the Center)

The Center will test, analyze, and report on more than 30 electro-optical systems with special emphasis on rotary wing survivability, CMs/counter-countermeasures (CCMs) employment, warning and targeting systems and precision guided weapons (PGWs). Each program supported will receive an independent assessment of our findings and test support for CM/ counter countermeasures (CCM) evaluations. We will continue to emphasize support of the DOT&E enterprise with a clear focus on Title 10 weapons systems, aircraft survivability and hostile fire initiatives. Additionally, a large percentage of on-going efforts will focus on aircraft survivability testing in support of current OCO. Furthermore, the Center will continue providing CM expertise in pre-deployment events and training, tactics and procedures (TTP) development. The Center will continue to develop, the Central Test and Evaluation Investment Program (CTEIP) sponsored, Towed Aerial Plume Simulator (TAPS) and Multi-Spectral Sea and Land Target Simulator (MSALTS) that will be used in support of testing for both Title 10 programs and OCO aircraft survivability equipment (ASE) urgent operational needs. The Center will be developing the Threat Simulator Working Group (TSWG) sponsored Hostile Fire Signature (HSIG) model. The Center's support will be distributed across all the Services as well as intelligence agencies and research and development activities.

The Center will provide expertise to many organizations and will be actively involved in the following panels: Foreign Material Exploitation Working Group, Foreign Material Program Test and Evaluation Subcommittee, Joint Project Mallari Working Group, Joint Expendable Countermeasures Integrated Product Team, Joint Infrared Countermeasures Multi Sensing Symposia Working

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Group, Joint Aircraft Survivability Program, Joint Countermeasures T&E Working Group (JCMT&E WG), and JCMT&E WG Hostile Fire Indicator subgroup lead. Joint Technical Coordinating Group for Munitions Effectiveness (JTCG/ME) In support of operational commanders, DoD targeteers, weaponeers, and planners, the JTCG/ME will develop and release JMEM Weaponeering System (JWS) v2.1 in August 2011 and Joint-Antiair Combat Effectiveness System (J-ACE) Air Superiority (AS) v5.0 in September 2011. JWS v2.1 will provide a major capability increase to include Fast Integrated Structural Tool (FIST), Enhanced Penetration Cratering Effeects (PCEffects), Precision Munitions Planning Tool (PMPT), Joint Smart Weapons Model (JSWM), Improved Ship Weaponeering and Estimation Tool, Mine methodology, and Hellfire weaponeering data, etc. FIST is the future JMEM operational-level tool that incorporates the integral modules from Building Analysis Module (BAM) and Hardened Target Module (HTM) to create a merged tool that generates weapon effectiveness and damage assessments against infrastructure targets to include buildings, bunkers, and tunnels. J-ACE v5.0 will provide a major capability increase to more fully consider antiair missile effectiveness. The faster than real time calculations will address missile fly out, target evasive maneuver, miss distance, effects of countermeasures, fuze performance, missile lethality and target vulnerability. These key “kill chain” elements will be provided for RED and BLUE weapons. To more effectively support operational mission planning, particularly at USSTRATCOM, the JAAM 5.0 release will also provide direct force level simulation interface. The J-ACE and JAAM 5.0 release will be a “Block 1” capability that will be refined and extended in follow-on Block 2 and Block 3 releases. Advanced Joint Effectiveness Model (AJEM) updates will focus on supporting JTCG/ME and acquisition offices by continuing to respond to shortfalls within existing methodology and expanding to support the ongoing paradigm shift from overmatching weapons to more precise weapons. The precision of these new weapons requires a better understanding of target response. Specific methodology tasks will be to (i) add partial impact to prevent under-prediction of JWS lethality; (ii) develop understating of ORCA for use in JTCG/ME studies with AJEM; (iii) expand the suite of penetration methodology modules as standalone analysis tools and as plug-in for higher level codes; and (iv) improve blast data for JWS by use of employing meta-balls instead of Lethal Miss Distances (LMDs). JTCG/ME will continue to: (i) develop JMEM data for most critical Combatant Commander identified systems; (ii) reduce CD-ROM update cycles through incremental updates; (iii) accredit tri-Service JMEM operational tools for Joint Non-Lethal Analysis Tool (JNLAT), Direct Energy (DE) and IO programs; (iv) expand existing databases to incorporate newly fielded weapons (i.e.,			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Air-to-Surface, Surface-to-Surface Direct/Indirect Fire, and Antiair); (v) enhance collateral damage and hardened target structure methodology; and, (vi) provide connectivity to real time planning systems assessing time sensitive targets. Joint Aircraft Survivability Program (JASP) In FY 2011 the JASP will continue work on at least 16 multi-year RDT&E projects and initiate 22 new projects approved by the JASP Principal Members Steering Group and OSD/DOT&E. The JASP will apply resources to address aircraft occupant casualties and rotorcraft combat survivability. In the area of susceptibility reduction, the JASP will address improving directed energy infrared countermeasures, electronic countermeasures technology and techniques, aircrew situational awareness and immediate operator needs. In the area of vulnerability reduction, the JASP will continue to address requirements for lighter and more effective vulnerability reduction technology (e.g., armor, fuel containment, fire suppression, and aircrew and passenger protection). In aircraft survivability M&S, the JASP will continue to improve survivability M&S credibility, address operator requirements for survivability data, integrate DIA threat missile models into threat engagement codes, improve the assessment of aircrew and passenger injuries, and address M&S requirements identified by the joint aircraft survivability community. The JCAT will continue to support the Air Force, Army, Marine Corps and Navy by assessing combat damage incidents, training operators on threat effects and combat damage assessment, and reporting their findings to combatant commanders and the DoD science and technology and acquisition communities. The JASP will continue supporting aircraft survivability education and information exchange through internet sites (restricted access and classified), by publishing the Aircraft Survivability Journal, developing educational materials and conducting training for the DoD and their contractors. The JASP will initiate, continue and complete other projects as approved by the JASP Principal Members Steering Group and OSD/DOT&E. Test and Evaluation Independent Activities This is a continuing program. The FY 2011 funds will used to provide support of policy development oversight of the DoD test and evaluation practices, infrastructure and resources; and transformation of test methods and infrastructure to ensure future defense systems provide necessary joint warfighting capabilities. Funding was used to support the development of technical alternatives on issues affecting test and evaluation resources and infrastructure. This program element funds travel in support of its activities. As part of the Secretary's Task Force on Efficiencies, this contractual effort is scheduled to close out by the end of fiscal year 2011. These efforts will be accomplished by internal DOT&E personnel as collateral duty without degragration to the DOT&E mission.			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
This program element is budgeted in Budget Activity 6, RDT&E Management Support, to support management activities for the DOT&E oversight responsibility for test and evaluation and test and evaluation resources. ***FY 2012 Plans:*** Joint Test and Evaluation (JT&E) In FY 2012 JT&E has two projects slated for closing and an estimated four projects ongoing from FY 2010 and FY 2011. The Joint Integration of Maritime Domain Awareness Joint Test, expected to close in FY 2012, is developing joint tactics, techniques, and procedures to synchronize maritime domain information for key decision makers across operations centers for homeland defense. The other project closing is Joint Jamming Assessment and Mitigation Joint Test. This project is developing joint tactics, techniques, and procedures to sustain operations in the presence of purposeful interference on the ultra- and super-high frequencies of the satellite communication bands. This will allow commanders and operators to execute operations when satellite communications are denied or degraded. On a continual basis, JT&E reviews nominations for new projects, manages ongoing projects, and ensures that closing projects are debriefed and that final reports are distributed to the appropriate Service organizations. Threat Systems Threat Systems will continue integration of current intelligence community-based models into test and evaluation facilities, continue test planning working group participation to identify threat shortfalls; conduct special studies and provide current intelligence support tailored to specific U.S. weapon systems acquisition; develop Global Positioning Satellite jamming capability to increase threat realism at our test ranges, and complete the development of an ammunition and rocket propelled grenade signature model for use in hostile fire indicator systems. Candidate threat systems will be proposed from the various intelligence agencies and develop models for use in test and evaluation. The Center will investigate the integration of digital radio frequency memory (DRFM) technology to develop modern threat jammers. New initiatives for FY 2012 include continuing investigations into DRFM use against threat air defense systems, development of next generation threat GPS jammers and their potential impact of US weapon systems, cyber warfare threats, and jammers against space systems. The Center will continue to pursue efforts to expand the use of standard interfaces within target control systems in use by the Services; complete the development of a new countermeasure dispensing system for use on target platforms; and perform system testing on a newly developed payload integration module for aerial targets.			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Operational Test and Evaluation, Defense		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
These activities help DOT&E carry out its Title 10 responsibilities to assess test adequacy and determine whether testing is realistic and suitable, and promotes common solutions to Service threat representation needs. Center for Countermeasures (CCM) The Center will test, analyze, and report on more than 30 electro-optical systems with special emphasis on rotary wing survivability, CMs/ counter-countermeasures (CCMs) employment, warning and targeting systems and precision guided weapons (PGWs). Each program supported will receive an independent assessment of our findings and test support for CM/ counter countermeasures (CCM) evaluations. The Center will continue to emphasize support of the DOT&E enterprise with a clear focus on Title 10 weapons systems, aircraft survivability and hostile fire initiatives. Additionally, a large percentage of on-going efforts will focus on aircraft survivability testing in support of current OCO. Furthermore, the Center will continue providing CM expertise in pre-deployment events and training, tactics and procedures (TTP) development. The Center will continue to develop, the Central Test and Evaluation Investment Program sponsored Multi-Spectral Sea and Land Target Simulator that will be used in support of testing for both Title 10 programs and OCO aircraft survivability equipment urgent operational needs. The Center will continue to develop the Threat Simulator Working Group sponsored Hostile Fire Signature model. The Center's support will be distributed across all the Services as well as intelligence agencies and research and development activities. The Center will provide expertise to many organizations and will be actively involved in the following panels: Foreign Material Exploitation Working Group, Foreign Material Program Test and Evaluation (T&E) Subcommittee, Joint Project Mallari Working Group, Joint Expendable Countermeasures Integrated Product Team, Joint Infrared Countermeasures Multi Sensing Symposia Working Group, Joint Aircraft Survivability Program, Joint Countermeasures T&E Working Group (JCMT&E WG), and JCMT&E WG Hostile Fire Indicator (HFI) subgroup lead. Joint Technical Coordinating Group for Munitions Effectiveness (JTCG/ME) In support of operational commanders, DoD targeteers, weaponeers, and planners, the JTCG/ME will develop and release JMEM Weaponeering System (JWS) v2.2 in September 2012 and Joint-Antiair Combat Effectiveness System (J-ACE) Air Superiority (AS) v5.1 in August 2012. JWS v2.2 will provide new COCOM high priority targets and weapons data; updates to Boat Estimation Tool (BET), Fast Integrated Structural Tool (FIST), and Passive Vehicle Target Model (PVTM); and a capability to drop-in critical data and modules. J-ACE v5.1 will add Browse descriptive material to support new weapons in Joint Anti-air Model (JAAM); incorporate Suite of Anti-air Kill-chain Models and Data (SAK-MD) capability; and udate existing weapons and aircraft in JAAM.			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Operational Test and Evaluation, Defense		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
JTCG/ME will continue to; (i) develop a predictive capability to assess blast effects, body-on-body penetration, and blast-fragment synergism and incorporate these mechanisms in the JTCG/ME estimation process for small, precision weapons; (ii) expand the use of computational physics to improve test design and data analysis to support both analytical model development and the characterization of weapons addressing blast interactions with structures, weapon fragmentation, and penetration mechanics; and (iii) begin the development of Tri-service approved models for non-lethal, High Energy Laser (HEL) and High-Power Microwave (HPM weapon effects). JMEMs will continue to be evolved. Fast running operational tools will be created from the existing detailed analytical models typically used to support system acquisition decisions. Necessary investment will be made in those models for the development, configuration management and validation required to insure their applicability in support of warfighting operations. This investment will allow more effective and efficient use of DoD resources; build on a record of success in supporting Warfighter application of conventional weapons; and will increase operational capability in areas such as: (i) precision application of firepower in an environment where zero collateral casualties is the expectation; (ii) optimal use of scarce and/or high value resources, preferred and prepositioned munitions; (iii) reduced uncertainties and delays in strike planning and Battle Damage Assessment (BDA); (iv) weapon effects in a CM environment; and (v) reduced risk to personnel, materiel and mission accomplishment. Joint Aircraft Survivability Program (JASP) In FY 2012 the JASP will continue work on at least 32 multi-year RDT&E projects and initiate new projects approved by the JASP Principal Members Steering Group and OSD/DOT&E. The JASP will apply resources to address aircraft occupant casualties and rotorcraft combat survivability. In the area of susceptibility reduction, the JASP will address improving directed energy infrared countermeasures, electronic countermeasures technology and techniques, aircrew situational awareness and urgent operator needs. In the area of vulnerability reduction, the JASP will continue to address requirements for lighter and more effective vulnerability reduction technology (e.g., armor, fuel containment, fire suppression, and aircrew and passenger protection). In aircraft survivability M&S, the JASP will continue to improve survivability M&S credibility, address operator requirements for survivability data, integrate DIA threat missile models into threat engagement codes, improve the assessment of aircrew and passenger injuries, and address M&S requirements identified by the joint aircraft survivability community. The JCAT will continue to support the Air Force, Army, Marine Corps and Navy by assessing combat damage incidents, training operators on threat effects and combat damage assessment, and reporting their findings to combatant commanders and the DoD science and technology and acquisition communities. The JASP will continue supporting aircraft survivability education and information exchange through internet sites (restricted access and classified), by publishing the Aircraft Survivability Journal,			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Operational Test and Evaluation, Defense		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
developing educational materials and conducting training for the DoD and their contractors. The JASP will initiate, continue and complete other projects as approved by the JASP Principal Members Steering Group and OSD/DOT&E.			
Accomplishments/Planned Programs Subtotals	118.101	122.581	118.722

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Performance Measure: Percentage of required products, such as test planning documents, munitions effectiveness manuals, tactics-techniques-procedures, threat characteristics, assessments, and reports that are developed and delivered to program managers and customers on time.

Operational Test Activities and Analyses	FY 2010 (Actual)	FY 2011 (Goal)	FY 2012 (Goal)
On-Time Completion Rate	94%	95%	96%

The on-time completion rate was computed on the basis of the number of required products that were submitted within established time standards relative to the total number of such products that fell due during the fiscal year. DOT&E plans to achieve its goals for FY 2011 and FY 2012 through increased management emphasis on timely delivery of required products to customer activities.