Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Operational Test and Evaluation, Defense	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0460: *Operational Test and Evaluation, Defense* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605131OTE: *Live Fire Test and Evaluation (LFT&E)*

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	12.126	49.201	48.423	-	48.423	49.587	50.255	51.306	52.440	Continuing	Continuing
1: *LFT&E*	-	12.126	49.201	48.423	-	48.423	49.587	50.255	51.306	52.440	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

This Program Element consists of three programs: Live Fire Test and Evaluation, Joint Aircraft Survivability Program (JASP), and Joint Technical Coordinating Group for Munitions Effectiveness (JTCG/ME). Starting in FY 2013 the JASP and JTCG/ME programs are realigned from the Operational Test Activities and Analyses program (0605814OTE) to the Live Fire Test and Evaluation program element (0605131OTE). The JASP and JTCG/ME programs focus on the survivability of currently fielded systems; therefore, the two programs are more appropriately funded within the Live Fire Test and Evaluation program element.

This Program Element directly supports the Congressional statutory requirements for oversight of Live Fire Test and Evaluation (LFT&E). The primary objective of LFT&E is to assure that the vulnerability and survivability of Department of Defense (DoD) crew-carrying platforms and the lethality of our conventional munitions are known and acceptable before entering full-rate production. LFT&E encompasses realistic tests involving actual United States (U.S.) and foreign threat hardware or, if not available, acceptable surrogate threat hardware. The objective is to identify and correct design deficiencies early in the development process. A completed LFT&E program and test report is required before programs proceed beyond low-rate initial production (BLRIP). LFT&E also includes realistic modeling and simulation (M&S) to examine survivability and lethality attributes not assessed during testing.

This Program Element also supports DoD's Joint Live Fire (JLF) Program and other LFT&E related initiatives. JLF was begun in 1984 under an Office of the Secretary of Defense (OSD) charter to test fielded front-line combat aircraft and armor systems for their vulnerabilities as well as fielded weapons, both U.S. and foreign, for their lethalities against their respective targets. Funds are also used to support other initiatives related to quick reaction requests from theater and other areas of personnel survivability.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Operational Test and Evaluation, Defense	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0460: *Operational Test and Evaluation, Defense* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0605131OTE: *Live Fire Test and Evaluation (LFT&E)*

The Joint Logistics Commanders Joint Technical Coordinating Group for Munitions Effectiveness (JTCG/ME) was chartered more than 40 years ago to serve as DoD's focal point for munitions effectiveness information. This has taken the form of widely used Joint Munitions Effectiveness Manuals (JMEMs) which address 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. The JMEM requirements and development processes continues to be driven by operational lessons learned (Enduring Freedom, Iraqi Freedom, and Odyssey Dawn) and the needs of Combatant Commands, Services, Military Targeting Committee, and Operational Users Working Groups input for specific weapon-target pairings and methodologies.

This program element also includes funds to obtain Federally Funded Research and Development Center (FFRDC) expertise in performing analyses in support of described Live Fire Test and Evaluation tasks, as well as travel funds to carry out the LFT&E programs.

This program element is budgeted in Budget Activity 6, RDT&E Management Support, to support LFT&E management activities for the oversight of RDT&E of new systems, as well as RDT&E of fielded systems.

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	12.126	49.201	48.423	-	48.423
Current President's Budget	12.126	49.201	48.423	-	48.423
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Operational Test and Evaluation, Defense			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0460: *Operational Test and Evaluation, Defense* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605131OTE: *Live Fire Test and Evaluation (LFT&E)*	PROJECT 1: *LFT&E*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
1: *LFT&E*	-	12.126	49.201	48.423	-	48.423	49.587	50.255	51.306	52.440	Continuing	Continuing
Quantity of RDT&E Articles												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

This Program Element consists of three programs: Live Fire Test and Evaluation, Joint Aircraft Survivability Program (JASP) and Joint Technical Coordinating Group for Munitions Effectiveness (JTCG/ME). Starting in FY 2013 the JASP and JTCG/ME programs are realigned from the Operational Test Activities and Analyses program (0605814OTE) to the Live Fire Test and Evaluation program element (0605131OTE). The JASP and JTCG/ME programs focus on the survivability of currently fielded systems; therefore, the two programs are more appropriately funded within the Live Fire Test and Evaluation program element.

This Program Element directly supports the Congressional statutory requirements for oversight of Live Fire Test and Evaluation (LFT&E). The primary objective of LFT&E is to assure that the vulnerability and survivability of Department of Defense (DoD) crew-carrying platforms and the lethality of our conventional munitions are known and acceptable before entering full-rate production. LFT&E encompasses realistic tests involving actual United States (U.S.) and foreign threat hardware or, if not available, acceptable surrogate threat hardware. The objective is to identify and correct design deficiencies early in the development process. A completed LFT&E program and test report is required before programs proceed beyond low-rate initial production (BLRIP). LFT&E also includes realistic modeling and simulation (M&S) to examine survivability and lethality attributes not assessed during testing.

This Program Element also supports DoD's Joint Live Fire (JLF) Program and other LFT&E related initiatives. JLF was begun in 1984 under an Office of the Secretary of Defense (OSD) charter to test fielded front-line combat aircraft and armor systems for their vulnerabilities as well as fielded weapons, both U.S. and foreign, for their lethalities against their respective targets. Funds are also used to support other initiatives related to quick reaction requests from theater and other areas of personnel survivability.

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.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Operational Test and Evaluation, Defense		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0460: *Operational Test and Evaluation, Defense* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605131OTE: *Live Fire Test and Evaluation (LFT&E)*	PROJECT 1: *LFT&E*

The Joint Logistics Commanders Joint Technical Coordinating Group for Munitions Effectiveness (JTCG/ME) was chartered more than 40 years ago to serve as DoD's focal point for munitions effectiveness information. This has taken the form of widely used Joint Munitions Effectiveness Manuals (JMEMs) which address 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. The JMEM requirements and development processes continues to be driven by operational lessons learned (Enduring Freedom, Iraqi Freedom, and Odyssey Dawn) and the needs of Combatant Commands, Services, Military Targeting Committee, and Operational Users Working Groups input for specific weapon-target pairings and methodologies.

This program element also includes funds to obtain Federally Funded Research and Development Center (FFRDC) expertise in performing analyses in support of described Live Fire Test and Evaluation tasks, as well as travel funds to carry out the LFT&E programs.

This program element is budgeted in Budget Activity 6, RDT&E Management Support, to support LFT&E management activities for the oversight of RDT&E of new systems, as well as RDT&E of fielded systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Live Fire Test and Evaluation	12.126	49.201	48.423
Description: This Program Element consists of three programs: Live Fire Test and Evaluation, Joint Aircraft Survivability Program (JASP) and Joint Technical Coordinating Group for Munitions Effectiveness (JTCG/ME). Starting in FY 2013 the JASP and JTCG/ME programs are realigned from the Operational Test Activities and Analyses program (0605814OTE) to the Live Fire Test and Evaluation program element (0605131OTE). The JASP and JTCG/ME programs focus on the survivability of currently fielded systems; therefore, the two programs are more appropriately funded within the Live Fire Test and Evaluation program element.			
FY 2012 Accomplishments: Live Fire Test and Evaluation Major Test and Evaluation Programs The FY 2012 budget provided Live Fire Test and Evaluation input for Test and Evaluation Master Plans, Test Plans, System Acquisition Reports, Defense Acquisition Executive Summary reports, and Beyond Low Rate Initial Production (BLRIP) reports for those programs designated for oversight by DOT&E and OUSD(AT&L). The oversight list is developed and published annually. JLF Programs and LFT&E Initiatives Conducted tests of fielded systems not previously tested under Air, Land, or Sea Joint Live Fire programs to support DOT&E and operator needs. The need for these tests results from systems being exposed to new threats, used in new unanticipated			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Operational Test and Evaluation, Defense		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0460: *Operational Test and Evaluation, Defense* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605131OTE: *Live Fire Test and Evaluation (LFT&E)*	PROJECT 1: *LFT&E*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014

tactics, or being operated in new combat environments, and the subsequent need for an assessment of their performance. Efforts were continued in support of Personnel Protection Equipment, including combat helmets and body armor. Urgent requests were addressed that directly support deployed operators and issues of importance to the Congress as they arise.

JLF projects were performed to provide survivability data on currently fielded U.S. systems. JLF Air projects investigated an emerging threat first seen in a CH 47 combat incident, tested the vulnerability of sponsons to RPGs, and evaluated engine nacelle vulnerability reduction techniques, as well as evaluated technologies/techniques to reduce generic vulnerabilities to all aircraft, such as to MANPADS, small arms, and the performance of self-sealing fuel tanks using bio-fuels. Projects investigated the effect of yawed projectiles and missile debris on aircraft vulnerability, the vulnerability of turboprop engines, and performed a comparison of commonly used test threats. JLF Land projects investigated the vulnerability of vehicles to underbody blast and the lethality of U.S. weapons against typical in-theater targets, and improved modeling and simulation tools by providing validation data. JLF personnel studied the use and validity of manikins, helmets, and improvements to material characteristics used in modeling and simulation. JLF Sea projects developed key components of alternatives to traditional shock trials of ships and submarines, continued to investigate ship vulnerabilities in the areas of commercial standards, equipment and component damage, and investigated vulnerabilities of designs and components for new ships.

Joint Aircraft Survivability Program (JASP) (Funded within PE 0605814OTE)

In FY 2012 the JASP continued work on 33 multi-year RDT&E projects and initiated 26 new projects approved by the JASP Principal Members Steering Group and OSD/DOT&E. In the area of susceptibility reduction, the JASP addressed improving the effectiveness and reducing the space, weight and power required for directed energy infrared countermeasures, electronic countermeasures technology and techniques, integrated aircraft survivability equipment, and aircrew situational awareness. In the area of vulnerability reduction, the JASP continued 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 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 completed 39 reports documenting efforts accomplished in FY 2012.

The 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.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Operational Test and Evaluation, Defense		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0460: *Operational Test and Evaluation, Defense* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605131OTE: *Live Fire Test and Evaluation (LFT&E)*	PROJECT 1: *LFT&E*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Joint Technical Coordinating Group for Munitions Effectiveness (JTCG/ME) JTCG/ME Joint Munitions Effectiveness Manual Weaponeering System (JWS) v2.1software and JTCG/ME generated Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3160.01 Collateral Effects Radii (CER) tables were used for operational weaponeering and collateral damage estimation calls in direct support of operations in the AFRICOM and CENTCOM Areas of Responsibilities. To provide continued support to operational commanders, DoD targeteers, weaponeers, and planners, the JTCG/ME developed various analytical and operational methodologies and target geometric models. Additionally JTCG/ME's air-to-air and surface-to-air planning model, the Joint-Antiair Combat Effectiveness System (J-ACE) v5.1 was released in July 2012 to provide aircraft survivability data. JWS v2.1 contains the Fast Integrated Structural Tool (FIST). FIST is the JMEM operational-level methodology that incorporates the integral modules from the 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 contains 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 v5.1simulates air-to-air and surface-to-air engagements. Blue, Red, and Gray air-to-air missile (AAM) models; and, Red and Gray surface-to-air missile (SAM) flyout models are included. Probability-of-kill estimates are also provided. Previous releases have provided pre-computed tables of probability of kill given an intercept for selected weapon-target pairings and engagement conditions. Because these tables proved tedious in their use, J-ACE v5.1 now provides the new "Endgame Manager" (EM) v2.2.0 software and data sets. EM allows "on-demand" calculation of multiple kill levels for specific engagement conditions encountered at intercept. To more effectively support operational mission planning, particularly at USSTRATCOM, the J-ACE v5.1 release also provides a direct interface to force level simulations. The fidelity is adequate for studying tactics, training evaluation, relative missile performance and scenario planning. In support of the Combatant Commands and the CJCSI 3160.01, JTCG/ME provided updates for CER values for newly fielded systems. In addition, the JTCG/ME supported the Digital Precision Strike Suite (DPSS) Collateral Damage Estimation (DCiDE) tool for operational use. This tool displays accredited Collateral Damage Estimate Level 1-5 A-C series effective radii reference tables. Additionally, JTCG/ME trained nearly 250 users at 10 different Commands to support Collateral Damage Estimation decisions. The JTCG/ME assessed fielded and emerging Information Operations (IO) systems as part of early efforts to create an Effects Based Operations (EBO) evaluation capability set. The scope includes weapon characterization, coordinating test and target			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Operational Test and Evaluation, Defense		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0460: *Operational Test and Evaluation, Defense* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605131OTE: *Live Fire Test and Evaluation (LFT&E)*	PROJECT 1: *LFT&E*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014

data development and providing operational tools for the IO elements of Computer Network Attack, Computer Network Defense, Military Information Support Operations (MISO) and Electronic Warfare. 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.

FY 2013 Plans:

Live Fire Test and Evaluation Major Test and Evaluation Programs

This is a continuing effort. The FY 2013 budget provides Live Fire Test and Evaluation input for Test and Evaluation Master Plans, Test Plans, System Acquisition Reports, Defense Acquisition Executive Summary reports, and BLRIP reports for those programs designated for oversight by DOT&E and OUSD(AT&L). The oversight list is developed and published annually.

JLF Programs and LFT&E Initiatives

Conduct tests of fielded systems not previously tested under Air, Land, or Sea Joint Live Fire programs to support DOT&E and operator needs. The need for these tests results from systems being exposed to new threats, used in new unanticipated tactics, or being operated in new combat environments, and the subsequent need for an assessment of their performance. Continue efforts in support of Personnel Protection Equipment, including combat helmets and body armor. Continue to address urgent requests that directly support deployed operators and issues of importance to the Congress as they arise.

Perform JLF projects to provide survivability data on currently fielded U.S. systems. JLF Air projects are continuing to evaluate generic technologies and techniques to decrease vulnerabilities to all aircraft, such as to MANPADS, small arms, and the performance of self sealing fuel tanks using bio-fuels. New projects are investigating the munitions and aircraft fire and explosion vulnerabilities. JLF Land projects continue to investigate the vulnerability of vehicles to underbody blast and the lethality of U.S. weapons against typical in-theater targets, as well as improving modeling and simulation tools by providing validation data. New projects are studying helmets and improvements to material characteristics used in modeling and simulation. JLF Sea projects continue to develop key components of alternatives to traditional shock trials of ships and submarines, to investigate ship vulnerabilities in the areas of commercial standards, equipment and component damage, as well as vulnerabilities of designs and components for new ships.

Joint Aircraft Survivability Program (JASP)

In FY 2013 the JASP will continue work on at least 34 multi-year RDT&E projects and initiate 20 new projects approved by the JASP Principal Members Steering Group and OSD/DOT&E. In the area of susceptibility reduction, the JASP will address

Exhibit R-2A, RDT&E Project Justification: PB 2014 Operational Test and Evaluation, Defense		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0460: *Operational Test and Evaluation, Defense* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605131OTE: *Live Fire Test and Evaluation (LFT&E)*	PROJECT 1: *LFT&E*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014

improving the effectiveness and reducing the space, weight and power required for directed energy infrared countermeasures, electronic countermeasures technology and techniques, and aircrew situational awareness. 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.

Joint Technical Coordinating Group for Munitions Effectiveness (JTCG/ME)

In support of operational commanders, DoD targeteers, weaponeers, and planners, the JTCG/ME will release JMEM Weaponeering System (JWS) v2.1.1 and the Joint-Antiair Combat Effectiveness System (J-ACE) Air Superiority (AS) v5.2 in FY13.

JWS v2.1.1 will add new weapons and their delivery accuracy data. Also included will be an updated direct fire cell by cell viewer and follow-on enhancements to the Fast Integrated Structural Tool (FIST). Additionally it will address upgrades to the Joint Smart Weapons Model (JSWM). JSWM is an effectiveness simulation intended for the analysis of smart submunition weapons. JSWM is a many submunitions-on-many targets model used to evaluate smart submunitions to determine effectiveness based on the results of simple algorithms and inputs. Finally, based upon inputs from the Defense Intelligence Agency and their Intelligence Centers, classification markings on various targets will be updated.

J-ACE v5.2 will provide extended and updated data sets for missile and aircraft target aero-performance, antiair missile lethality and air target vulnerability. In particular, initial data sets in support of the F-35 Lightning Joint Strike Fighter Joint Operational Test Team will be included. J-ACE v5.2 will also field the initial methodology and data for evaluation selected US countermeasure system performance against Radio Frequency guided threat surface-to-air missile. This is the first of what is expected to be several years of increasing J-ACE capability to quantitatively evaluate countermeasure system performance in support of operational analysis of air combat effectiveness.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Operational Test and Evaluation, Defense		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0460: *Operational Test and Evaluation, Defense* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605131OTE: *Live Fire Test and Evaluation (LFT&E)*	PROJECT 1: *LFT&E*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014

In support of Combatant Commands and the CJCSI 3160.01, JTCG/ME will continue to provide updates for CER values for newly fielded systems. JTCG/ME will also continue to monitor the DCiDE tool configuration management process to ensure that subsequent versions of DCiDE accurately reflect the latest JTCG/ME accredited tables; Combatant Command specified population density factors and associated user input. The DCiDE tool will evolve to be the foundation for collateral damage estimation on JWS.

JTCG/ME will develop JMEM data for most critical Combatant Commander identified systems and also reduce DVD-ROM update cycles through incremental updates. Accreditation of tri-Service JMEM operational tools will continue as well as expanding existing databases to incorporate newly fielded weapons (i.e., Air-to-Surface, Surface-to-Surface Direct/Indirect Fire, and Antiair). Finally providing connectivity to real time planning systems assessing time sensitive targets will be addressed.

FY 2014 Plans:

Live Fire Test and Evaluation Major Test and Evaluation Programs

This is a continuing effort. The FY 2014 budget provides Live Fire Test and Evaluation input for Test and Evaluation Master Plans, Test Plans, System Acquisition Reports, Defense Acquisition Executive Summary reports, and BLRIP reports for those programs designated for oversight by DOT&E and OUSD(AT&L). The oversight list is developed and published annually.

JLF Programs

Conduct tests of fielded systems not previously tested under Air, Land, or Sea Joint Live Fire programs to support DOT&E and warfighter needs. The need for these tests result from systems being exposed to new threats, used in new unanticipated tactics, or being operated in new combat environments, and the subsequent need for an assessment of their performance. Projects will address urgent requests that directly support deployed warfighters and issues of importance to the Congress.

Joint Aircraft Survivability Program (JASP)

In FY 2014 the JASP will continue work on at least 33 multi-year RDT&E projects and initiate new projects approved by the JASP Principal Members Steering Group and OSD/DOT&E. In the area of susceptibility reduction, the JASP will address improving the effectiveness and reducing the space, weight and power required for 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,

Exhibit R-2A, RDT&E Project Justification: PB 2014 Operational Test and Evaluation, Defense		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0460: *Operational Test and Evaluation, Defense* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605131OTE: *Live Fire Test and Evaluation (LFT&E)*	PROJECT 1: *LFT&E*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014

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.

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 and Joint-Antiair Combat Effectiveness System (J-ACE) Air Superiority (AS) v5.3 during FY14.

JWS v2.2 efforts will include connectivity (Mission Planning & Collateral Damage) and personnel vulnerability data updates. Additional updates will include an export to Microsoft software capabilities. Improvements on the JWS Parameterization Routine in JWS will be provided along with enhanced bomb-burial methodology and small precision methodology. Lastly McCabe module analysis will be used to enable development of code that is easy to maintain and further develop as well as ensuring full coverage in unit testing.

J-ACE v5.3 will continue to field and add Browse descriptive material to support new weapons in the Joint Anti-air Model (JAAM); expand Suite of Anti-air Kill-chain Models and Data (SAK-MD) capability; and update existing weapons and aircraft missile and aircraft target aero-performance, antiair missile lethality and air target vulnerability required by the operational community in JAAM. Additionally, data sets in support of the F-35 Lightning Joint Strike Fighter Joint Operational Test Team will be included, extended data for evaluation of US countermeasure system performance against Radio Frequency guided threat surface to air missile, and initial capability for evaluation of US countermeasure system performance against threat infrared guided SAM and AAM.

JTCG/ME will continue to 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. Furthermore, JTCG/ME will expand the use of computational physics to improve test design and data analysis to support both analytical model

Exhibit R-2A, RDT&E Project Justification: PB 2014 Operational Test and Evaluation, Defense		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 0460: *Operational Test and Evaluation, Defense* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605131OTE: *Live Fire Test and Evaluation (LFT&E)*	PROJECT 1: *LFT&E*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
development and the characterization of weapons addressing blast interactions with structures, weapon fragmentation, and penetration mechanics.			
Accomplishments/Planned Programs Subtotals	12.126	49.201	48.423

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

(U) PERFORMANCE METRICS:

Performance Measure: Percentage of required live fire test planning documents, assessments, munition effectiveness manuals, and reports applicable to acquisition programs on the OSD Test and Evaluation Oversight List and other special interest programs/legacy systems that are completed and delivered to the appropriate decision makers on time.

Actual Performance and Goals:

Live Fire Test and Evaluation	FY 2012 (Actual)	FY 2013 (Goal)	FY 2014 (Goal)
On-Time Completion Rate	93%	94%	95%

The on-time completion rate was computed on the basis of the number of beyond low-rate initial production live fire test and evaluation reports, Joint Live Fire Quick Look Reports, and Joint Live Fire Test reports 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 2013 and FY 2014 through continued management emphasis on timely delivery of required reports to customer activities.