| Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Operational Test and Evaluation, Defense | Date: March 2014 |
|---|---|
| **Appropriation/Budget Activity**<br>0460: *Operational Test and Evaluation, Defense I* BA 6: *RDT&E Management Support* | **R-1 Program Element (Number/Name)**<br>PE 0605131OTE *I Live Fire Test and Evaluation (LFT&E)* |

| COST ($ in Millions) | Prior Years | FY 2013 | FY 2014 | FY 2015 Base | FY 2015 OCO # | FY 2015 Total | FY 2016 | FY 2017 | FY 2018 | FY 2019 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element | 12.126 | 49.713 | 48.423 | 45.142 | - | 45.142 | 47.196 | 49.438 | 49.886 | 51.164 | Continuing | Continuing |
| 0605131OTE: *LFT&E* | 12.126 | 49.713 | 48.423 | 45.142 | - | 45.142 | 47.196 | 49.438 | 49.886 | 51.164 | Continuing | Continuing |

# The FY 2015 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 were realigned from the Operational Test Activities and Analyses program element (0605814OTE) to the Live Fire Test and Evaluation program element (0605131OTE). The JASP focuses on survivability improvements supporting aircraft acquisition and JTCG/ME focuses on the lethality of currently fielded weapons systems; therefore, the two programs are more appropriately budgeted 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 lethality 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 2015 Operational Test and Evaluation, Defense | Date: March 2014 |
|---|---|
| **Appropriation/Budget Activity**<br>0460: *Operational Test and Evaluation, Defense* / BA 6: *RDT&E Management Support* | **R-1 Program Element (Number/Name)**<br>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 operational weaponeering, strike mission planning, 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, JASP and JTCG/ME programs.

| B. Program Change Summary ($ in Millions) | FY 2013 | FY 2014 | FY 2015 Base | FY 2015 OCO | FY 2015 Total |
|---|---|---|---|---|---|
| Previous President's Budget | 49.201 | 48.423 | 49.587 | - | 49.587 |
| Current President's Budget | 49.713 | 48.423 | 45.142 | - | 45.142 |
| Total Adjustments | 0.512 | - | -4.445 | - | -4.445 |
| • Congressional General Reductions | -0.065 | - | | | |
| • Congressional Directed Reductions | -3.288 | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | - | - | | | |
| • Congressional Directed Transfers | - | - | | | |
| • Reprogrammings | 3.865 | - | | | |
| • SBIR/STTR Transfer | - | - | | | |
| • Budget Control Act | - | - | -4.445 | - | -4.445 |

| Exhibit R-2A, RDT&E Project Justification: PB 2015 Operational Test and Evaluation, Defense | | | Date: March 2014 |
|---|---|---|---|
| Appropriation/Budget Activity<br>0460 / 6 | R-1 Program Element (Number/Name)<br>PE 0605131OTE / *Live Fire Test and Evaluation (LFT&E)* | Project (Number/Name)<br>0605131OTE / *LFT&E* | |

| COST ($ in Millions) | Prior Years | FY 2013 | FY 2014 | FY 2015 Base | FY 2015 OCO # | FY 2015 Total | FY 2016 | FY 2017 | FY 2018 | FY 2019 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0605131OTE: *LFT&E* | 12.126 | 49.713 | 48.423 | 45.142 | - | 45.142 | 47.196 | 49.438 | 49.886 | 51.164 | Continuing | Continuing |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

# The FY 2015 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 were realigned from the Operational Test Activities and Analyses program element (0605814OTE) to the Live Fire Test and Evaluation program element (0605131OTE). The JASP focuses on survivability improvements supporting aircraft acquisition and JTCG/ME focuses on the lethality of currently fielded weapons systems; therefore, the two programs are more appropriately budgeted 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 lethality 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 2015 Operational Test and Evaluation, Defense | | Date: March 2014 |
|---|---|---|
| **Appropriation/Budget Activity**<br>0460 / 6 | **R-1 Program Element (Number/Name)**<br>PE 0605131OTE / *Live Fire Test and Evaluation (LFT&E)* | **Project (Number/Name)**<br>0605131OTE / *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 operational weaponeering, strike mission planning, 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, JASP and JTCG/ME programs.

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2013 | FY 2014 | FY 2015 |
|---|---|---|---|
| ***Title:*** Live Fire Test and Evaluation | 49.713 | 48.423 | 45.142 |
| ***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). | | | |
| ***FY 2013 Accomplishments:***<br>Live Fire Test and Evaluation Major Test and Evaluation Programs<br><br>The FY 2013 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.<br><br>JLF Programs and LFT&E Initiatives<br><br>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 tactics, or being operated in new combat environments, and the subsequent need for an assessment of their performance. Continued efforts in support of Personnel Protection Equipment, including testing protocols for combat helmets and body armor. Addressed urgent requests from theater that directly supported deployed Joint Combat Assessment Team investigation and report to operators.<br><br>Performed JLF projects to provide survivability data on currently fielded U.S. systems. JLF Air projects tested the vulnerability of PT6 turboprop engines and evaluated the effects of internal configuration on helicopter crew compartment fires, as well as | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2015 Operational Test and Evaluation, Defense | | Date: March 2014 |
|---|---|---|
| **Appropriation/Budget Activity**<br>0460 / 6 | **R-1 Program Element (Number/Name)**<br>PE 0605131OTE / *Live Fire Test and Evaluation (LFT&E)* | **Project (Number/Name)**<br>0605131OTE / *LFT&E* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2013 | FY 2014 | FY 2015 |
|---|---|---|---|
| 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. New projects investigated the effect of yawed projectiles and missile debris on aircraft vulnerability, the lethality of advanced projectile lethality, and a performed a comparison of commonly used test threats. JLF Land projects continued to investigate 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. New projects studied the use and validity of manikins, helmets, and improvements to material characteristics used in modeling and simulation. JLF Sea projects 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. New projects evaluated fire damage to ship components, including bulkheads, insulation, and reconfigurable spaces, investigated asymmetric boat threats, and began work on developing small boat vulnerability models.<br><br>Joint Aircraft Survivability Program (JASP)<br><br>In FY 2013 the JASP continued work on 33 multi-year RDT&E projects and initiated 19 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 38 reports documenting efforts accomplished in FY 2013.<br><br>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.<br><br>Joint Technical Coordinating Group for Munitions Effectiveness (JTCG/ME)<br><br>JTCG/ME Joint Munitions Effectiveness Manual Weaponeering System (JWS) v2.1.1 software and JTCG/ME generated Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3160.01 Collateral Effects Radii (CER) tables were used for operational | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2015 Operational Test and Evaluation, Defense | | Date: March 2014 |
|---|---|---|
| **Appropriation/Budget Activity**<br>0460 / 6 | **R-1 Program Element (Number/Name)**<br>PE 0605131OTE / *Live Fire Test and Evaluation (LFT&E)* | **Project (Number/Name)**<br>0605131OTE / *LFT&E* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2013 | FY 2014 | FY 2015 |
|---|---|---|---|
| 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-Anti-air Combat Effectiveness System (J-ACE) v5.2 was released in September 2013 to provide aircraft survivability data.<br><br>The fielded JWS v2.1.1 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. JWS v2.1.1 also contains approximately 180 new/updated targets, 15 new/updated munitions, new Explosive Equivalent Weights based on blast testing, and an improved 3-D viewer. In addition, JWS v2.2 development is on-going to support coalition partners. The JTCG/ME in conjunction with the JWS Configuration Control Board and the JMEM Production Contractor (JPC) are implementing a re-marking effort in order to facilitate the documentary release of JWS.<br><br>J-ACE v5.2 simulates 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. J-ACE v5.2 provides updated Joint Anti-Air Model (JAAM) missile fly out model including hundreds of weapon target pairings and JAAM-Enhanced Surface-to-Air Missile Simulation (ESAMS) countermeasures interface. J-ACE v5.2 also provides the new "Endgame Manager (EM)" software and data sets. The EM is a new application which adds missile lethality and target vulnerability. EM allows explicit evaluation of weapon miss distance, fuse performance, weapon lethality and target vulnerability. EM provides the Probability of kill given an intercept (Pk/i).<br><br>To more effectively support operational mission planning, particularly at USSTRATCOM, the J-ACE v5.2 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.<br><br>In support of the Combatant Commands and the CJCSI 3160.01, JTCG/ME provided updates for CER values for newly fielded/ updated systems (e.g., M1130 Projectile, AGM-65-E2/L and AGM-176-3/2M). 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.<br><br>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 data development and providing operational tools for the IO elements of Computer Network Attack, Computer Network Defense, | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2015 Operational Test and Evaluation, Defense | | Date: March 2014 |
|---|---|---|
| **Appropriation/Budget Activity**<br>0460 / 6 | **R-1 Program Element (Number/Name)**<br>PE 0605131OTE / *Live Fire Test and Evaluation (LFT&E)* | **Project (Number/Name)**<br>0605131OTE / *LFT&E* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2013 | FY 2014 | FY 2015 |
|---|---|---|---|
| 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.<br><br>***FY 2014 Plans:***<br>Live Fire Test and Evaluation Major Test and Evaluation Programs<br><br>This is a continuing effort. The FY 2014 budget provides for 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.<br><br>JLF Programs and LFT&E Initiatives<br><br>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.<br><br>Continue to perform JLF projects to provide survivability data on currently fielded U.S. systems. JLF Air projects will continue 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. New projects will investigate threat munitions and aircraft fire and explosion vulnerabilities. JLF Land projects will 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 will study helmets and improvements to material characteristics used in modeling and simulation. JLF Sea projects will continue to develop key components of alternatives to traditional shock trials of ships and submarines, will continue to investigate ship vulnerabilities in the areas of commercial standards, equipment and component damage, and will investigate vulnerabilities of designs and components for new ships.<br><br>Joint Aircraft Survivability Program (JASP)<br><br>In FY 2014 the JASP will continue work on at least 38 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 improving the effectiveness and reducing the space, weight and power required for directed energy infrared countermeasures, | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2015 Operational Test and Evaluation, Defense | | Date: March 2014 |
|---|---|---|
| **Appropriation/Budget Activity**<br>0460 / 6 | **R-1 Program Element (Number/Name)**<br>PE 0605131OTE / *Live Fire Test and Evaluation (LFT&E)* | **Project (Number/Name)**<br>0605131OTE / *LFT&E* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2013 | FY 2014 | FY 2015 |
|---|---|---|---|
| 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.<br><br>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.<br><br>Joint Technical Coordinating Group for Munitions Effectiveness (JTCG/ME)<br><br>In support of operational commanders, DoD targeteers, weaponeers, and planners, the JTCG/ME will release JMEM Weaponeering System (JWS) v2.2 and the Joint-Anti-air Combat Effectiveness System (J-ACE) Air Superiority (AS) v5.3 in FY 2014.<br><br>JWS v2.2 will add approximately two hundred calculated and surrogated targets; approximately thirteen Air-to-Surface Weapons and Warhead; three Surface-to-Surface Direct Fire Weapons; and ten Surface-to-Surface Indirect Fire Platforms, Weapons and Warheads; Fast Integrated Structural Tool (FIST) v1.1; Ship Weaponeering Estimation Tool (SWET) v2.0.1; Digital Precision Strike Suite (DPSS) Collateral Damage Estimation (DCiDE) Tool Version 1.1 linkage; and an enhanced viewer. Based on the current guidance and direction from Joint Staff, this JWS version will be released to several key coalition partners in support of current operations at International Security Assistance Force (ISAF), Combined Air Operations Centers and Other Joint Commands.<br><br>J-ACE v5.3 will provide extended and updated data sets for missile and aircraft target aero-performance, anti-air missile lethality and air target vulnerability. In particular, a total of 15 new or updated Air-to-Air (AA) or Surface-to-Air (SA) Government furnished missile or weapon fly out models will be integrated. Additionally, advanced pseudo six DoF BlueMax6 and Hercules aircraft aero performance models will be provided. BlueMax6 and Hercules provide a large library of BLUE and RED aircraft models developed by the acquisition and intelligence communities. Electronic Counter-Measure (ECM) will be developed and tested for an aircraft's ECM system jamming coverage. Initially, dynamic visualization of an aircraft's ECM systems zones of coverage will | | | |

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|---|---|---|
| **Appropriation/Budget Activity**<br>0460 / 6 | **R-1 Program Element (Number/Name)**<br>PE 0605131OTE / *Live Fire Test and Evaluation (LFT&E)* | **Project (Number/Name)**<br>0605131OTE / *LFT&E* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2013 | FY 2014 | FY 2015 |
|---|---|---|---|
| allow pilots, while developing threat engagement or evasive maneuvers, to consider ECM protection with respect to the threat position.<br><br>In support of Combatant Commands and the CJCSI 3160.01, JTCG/ME will accredit the Collateral Damage Estimation (CDE) Collateral Effects Radii (CER) xml file for use in Digital Precision Strike Suite CDE (DCiDE) Operational Tool. In accordance with the Office of Secretary of Defense Chief Information Officer Memorandum, JTCG/ME will also prepare a memorandum that grants an Authorization to Operate (ATO) and Authorization to Connect (ATC) for the DCiDE Tool Version 1.1. JTCG/ME will 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.<br><br>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 Anti-air). Finally providing connectivity to real time planning systems assessing time sensitive targets will be addressed.<br>***FY 2015 Plans:***<br>Live Fire Test and Evaluation Major Test and Evaluation Programs<br><br>This is a continuing effort. The FY 2015 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.<br><br>JLF Programs and LFT&E Initiatives<br><br>Conduct tests of fielded systems not previously tested under Air, Land, or Sea Joint Live Fire programs to support DOT&E and warfighter needs to the extent funding allows. 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.<br><br>Joint Aircraft Survivability Program (JASP) | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2015 Operational Test and Evaluation, Defense | | Date: March 2014 |
|---|---|---|
| **Appropriation/Budget Activity**<br>0460 / 6 | **R-1 Program Element (Number/Name)**<br>PE 0605131OTE / *Live Fire Test and Evaluation (LFT&E)* | **Project (Number/Name)**<br>0605131OTE / *LFT&E* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2013 | FY 2014 | FY 2015 |
|---|---|---|---|
| In FY 2015 the JASP will continue work on at least 33 multi-year RDT&E projects and initiate 12-18 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, 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.<br><br>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.<br><br>Joint Technical Coordinating Group for Munitions Effectiveness (JTCG/ME)<br><br>In support of operational commanders, DoD targeteers, weaponeers, and planners, the JTCG/ME will develop and release JMEM Weaponeering System (JWS) v2.3 and Joint-Anti-air Combat Effectiveness System (J-ACE) Air Superiority (AS) v5.4 during FY 2015.<br><br>JWS v2.3 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. In support of hard target development, JWS will integrate new and updated Defense Threat Reduction Agency's (DTRA) Integrated Munitions Effects Assessment (IMEA) tools into the Fast Integrated Structural Tool (FIS). In support of vulnerability data generation, maneuver and maritime targets that address the total target spectrum from the COCOMs and MRP will be developed. Other Key methodology improvements are Rotary Wing Delivery Accuracy Program (RWDAP), Joint Weapon Accuracy Model (JWAM), Risk Estimation tool, and blast/fragmentation methodologies for small precision munitions.<br><br>J-ACE v5.4 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 | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2015 Operational Test and Evaluation, Defense | | Date: March 2014 |
|---|---|---|
| **Appropriation/Budget Activity**<br>0460 / 6 | **R-1 Program Element (Number/Name)**<br>PE 0605131OTE / *Live Fire Test and Evaluation (LFT&E)* | **Project (Number/Name)**<br>0605131OTE / *LFT&E* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2013 | FY 2014 | FY 2015 |
|---|---|---|---|
| aircraft target aero-performance, anti-air missile lethality and air target vulnerability required by the operational community in JAAM. Additionally, J-ACE Electronic Counter Measures (ECM) program will be updated to integrate and test JAAM-HIVE/ ESAMS capability to evaluate RED Radio Frequency (RF) Air-to-Air Missile capability against a Blue target with countermeasures.<br><br>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 development and the characterization of weapons addressing blast interactions with structures, weapon fragmentation, and penetration mechanics. Additionally, JTCG/ME will continue to enhance Joint Capability Analysis and Assessment System (JCAAS) and Network Attack Weaponeering System (NWS) in support of Information Operations. | | | |
| **Accomplishments/Planned Programs Subtotals** | 49.713 | 48.423 | 45.142 |

**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. Percentage of required products, such as test planning documnets, munitions effectiveness manuals, tactic-techniques and reports that are developed and delivered to program managers and customers on time.

Actual Performance and Goals:

| Live Fire Test and Evaluation | FY 2013 (Actual) | FY 2014 (Goal) | FY 2015 (Goal) |
|---|---|---|---|
| On-Time Completion Rate | 92% | 93% | 94% |

| Exhibit R-2A, RDT&E Project Justification: PB 2015 Operational Test and Evaluation, Defense | | Date: March 2014 |
|---|---|---|
| **Appropriation/Budget Activity**<br>0460 / 6 | **R-1 Program Element (Number/Name)**<br>PE 0605131OTE / *Live Fire Test and Evaluation (LFT&E)* | **Project (Number/Name)**<br>0605131OTE / *LFT&E* |

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, Joint Live Fire Test reports and other 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 2014 and FY 2015 through continued management emphasis on timely delivery of required reports to customer activities.