# Department of Defense
# Fiscal Year (FY) 2016 President's Budget Submission

February 2015

## Operational Test and Evaluation, Defense

*Defense Wide Justification Book Volume 5 of 5*

***Operational Test and Evaluation, Defense***

## Table of Volumes

# Volume 5 Table of Contents

Defense-Wide
FY 2016 President's Budget
Exhibit R-1 FY 2016 President's Budget
Total Obligational Authority
(Dollars in Thousands)

02 Jan 2015

Appropriation: 0460D Operational Test & Eval, Defense

| Line No | Program Element Number | Item | Act | FY 2014 (Base & OCO) | FY 2015 Base Enacted | FY 2015 OCO Enacted | FY 2015 Total Enacted | FY 2016 Base | FY 2016 OCO | FY 2016 Total | Sec |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0605118OTE | Operational Test and Evaluation | 06 | 75,720 | 93,223 | | 93,223 | 76,838 | | 76,838 | U |
| 2 | 0605131OTE | Live Fire Test and Evaluation | 06 | 48,423 | 45,142 | | 45,142 | 46,882 | | 46,882 | U |
| 3 | 0605814OTE | Operational Test Activities and Analyses | 06 | 121,948 | 70,346 | | 70,346 | 46,838 | | 46,838 | U |
| | | Management Support | | 246,091 | 208,711 | | 208,711 | 170,558 | | 170,558 | |
| Total Operational Test & Eval, Defense | | | | 246,091 | 208,711 | | 208,711 | 170,558 | | 170,558 | |

R-1C1: FY 2016 President's Budget (Published Version of PB Position), as of January 2, 2015 at 11:17:51

## Program Element Table of Contents (by Budget Activity then Line Item Number)

***Budget Activity 06: RDT&E Management Support***
***Appropriation 0460: Operational Test and Evaluation, Defense***

## Program Element Table of Contents (Alphabetically by Program Element Title)

| Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Operational Test and Evaluation, Defense | Date: February 2015 |
|---|---|
| **Appropriation/Budget Activity**<br>0460: *Operational Test and Evaluation, Defense* / BA 6: *RDT&E Management Support* | **R-1 Program Element (Number/Name)**<br>PE 0605118OTE / *Operational Test and Evaluation (OT&E)* |

| COST ($ in Millions) | Prior Years | FY 2014 | FY 2015 | FY 2016 Base | FY 2016 OCO | FY 2016 Total | FY 2017 | FY 2018 | FY 2019 | FY 2020 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element | 151.815 | 75.720 | 93.223 | 76.838 | - | 76.838 | 78.434 | 80.143 | 81.937 | 84.049 | Continuing | Continuing |
| 0605118OTE: *OT&E* | 151.815 | 75.720 | 93.223 | 76.838 | - | 76.838 | 78.434 | 80.143 | 81.937 | 84.049 | Continuing | Continuing |

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

The Director of Operational Test and Evaluation (DOT&E) was created by Congress in 1983. The Director is responsible under Title 10 for policy and procedures for all aspects of Operational Test and Evaluation (OT&E) within the Department of Defense (DoD). Particular focus is given to OT&E that supports major weapon system production decisions for acquisition programs included on the Office of Secretary of Defense Test and Evaluation Oversight List that is prepared and approved annually. Generally, there are about 300 programs on the oversight list including all Major Defense Acquisition Programs (MDAP) and Major Automated Information Systems (MAIS). MDAPs may not proceed beyond low-rate initial production (BLRIP) until OT&E of the program is complete. DOT&E is involved early in the planning phase of each program to ensure adequate testing is planned and executed. Key elements of DOT&E's oversight authority include:

- The approval of component Test and Evaluation Master Plans (TEMPS).
- The approval of component OT&E Test Plans (TPs).
- Oversight of Military Department preparation and conduct of field operational tests; analysis and evaluation of the resultant test data; the assessment of the adequacy of the executed test and evaluation programs; and assessment of the operational effectiveness and suitability of the weapon systems.
- Reporting results of OT&E that supports BLRIP decisions to the Secretary of Defense and Congress, as well as providing an annual report summarizing all OT&E activities and the adequacy of test resources within DoD during the previous fiscal year.
- The review and make recommendations to the Secretary of Defense on all budgetary and financial matters related to OT&E, including operational test facilities, resources and ranges.

DOT&E also oversees and resources OT&E community efforts to plan and execute joint operational evaluations of information assurance and interoperability (IA and IOP) of fielded systems and networks during major Combatant Command (CCMD) and Service exercises, and reports the trends and findings in the annual report.

DOT&E is also involved in increasing the capacity to access realistically advanced cyber warfare capabilities to keep pace with heightened demand for their capabilities, advancing technologies and the growing cyber threat.

This Program Element includes funds to obtain Federally Funded Research and Development Center (FFRDC) support in performing the described tasks, travel funds to carry out oversight of the OT&E and IA and IOP programs, funds for Service teams performing information assurance and interoperability assessments during exercises, administrative support services, DFAS support, and engineering and technical support services related to the conduct of operational test and evaluation and exercise assessments.

| Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Operational Test and Evaluation, Defense | Date: February 2015 |
|---|---|
| **Appropriation/Budget Activity**<br>0460: *Operational Test and Evaluation, Defense* / BA 6: *RDT&E Management Support* | **R-1 Program Element (Number/Name)**<br>PE 0605118OTE / *Operational Test and Evaluation (OT&E)* |

| B. Program Change Summary ($ in Millions) | FY 2014 | FY 2015 | FY 2016 Base | FY 2016 OCO | FY 2016 Total |
|---|---|---|---|---|---|
| Previous President's Budget | 75.720 | 74.583 | 77.352 | - | 77.352 |
| Current President's Budget | 75.720 | 93.223 | 76.838 | - | 76.838 |
| Total Adjustments | - | 18.640 | -0.514 | - | -0.514 |
| • Congressional General Reductions | - | - | | | |
| • Congressional Directed Reductions | - | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | - | 18.640 | | | |
| • Congressional Directed Transfers | - | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | - | - | | | |
| • Inflation/Economic Assumptions | - | - | -0.514 | - | -0.514 |

| Congressional Add Details ($ in Millions, and Includes General Reductions) | FY 2014 | FY 2015 |
|---|---|---|
| **Project:** 0605118OTE: *OT&E* | | |
| Congressional Add: *Cyber Force Training and Resiliency* | - | 10.000 |
| Congressional Add: *PACOM Cyber* | - | 4.880 |
| Congressional Add: *Cyber Red Team and Training* | - | 3.760 |
| Congressional Add Subtotals for Project: 0605118OTE | - | 18.640 |
| Congressional Add Totals for all Projects | - | 18.640 |

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Operational Test and Evaluation, Defense | | | Date: February 2015 |
|---|---|---|---|
| Appropriation/Budget Activity<br>0460 / 6 | R-1 Program Element (Number/Name)<br>PE 0605118OTE / *Operational Test and Evaluation (OT&E)* | Project (Number/Name)<br>0605118OTE / *OT&E* | |

| COST ($ in Millions) | Prior Years | FY 2014 | FY 2015 | FY 2016 Base | FY 2016 OCO | FY 2016 Total | FY 2017 | FY 2018 | FY 2019 | FY 2020 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0605118OTE: *OT&E* | 151.815 | 75.720 | 93.223 | 76.838 | - | 76.838 | 78.434 | 80.143 | 81.937 | 84.049 | Continuing | Continuing |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

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

The Director of Operational Test and Evaluation (DOT&E) was created by Congress in 1983. The Director is responsible under Title 10 for policy and procedures for all aspects of Operational Test and Evaluation (OT&E) within the Department of Defense (DoD). Particular focus is given to OT&E that supports major weapon system production decisions for acquisition programs included on the Office of Secretary of Defense Test and Evaluation Oversight List that is prepared and approved annually. Generally, there are about 300 programs on the oversight list including all Major Defense Acquisition Programs (MDAP) and Major Automated Information Systems (MAIS). MDAPs may not proceed beyond low-rate initial production (BLRIP) until OT&E of the program is complete. DOT&E is involved early in the planning phase of each program to ensure adequate testing is planned and executed. Key elements of DOT&E's oversight authority include:

- The approval of component Test and Evaluation Master Plans (TEMPS).
- The approval of component OT&E Test Plans (TPs).
- Oversight of Military Department preparation and conduct of field operational tests; analysis and evaluation of the resultant test data; the assessment of the adequacy of the executed test and evaluation programs; and assessment of the operational effectiveness and suitability of the weapon systems.
- Reporting results of OT&E that supports BLRIP decisions to the Secretary of Defense and Congress, as well as providing an annual report summarizing all OT&E activities and the adequacy of test resources within DoD during the previous fiscal year.
- The review and make recommendations to the Secretary of Defense on all budgetary and financial matters related to OT&E, including operational test facilities, resources and ranges.

DOT&E also oversees and resources OT&E community efforts to plan and execute joint operational evaluations of information assurance and interoperability ( IA and IOP) of fielded systems and networks during major Combatant Command (CCMD) and Service exercises, and reports the trends and findings in the annual report.

DOT&E is also involved in increasing the capacity to access realistically advanced cyber warfighting capabilities to keep pace with heightened demand for those capabilities, advancing technologies and the growing cyber threat.

This Program Element includes funds to obtain Federally Funded Research and Development Center (FFRDC) support in performing the described tasks, travel funds to carry out oversight of the OT&E and IA and IOP programs, funds for Service teams performing information assurance and interoperability assessments during exercises, administrative support services, DFAS support, and engineering and technical support services related to the conduct of operational test and evaluation and exercise assessments.

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Operational Test and Evaluation, Defense | | Date: February 2015 |
|---|---|---|
| **Appropriation/Budget Activity**<br>0460 / 6 | **R-1 Program Element (Number/Name)**<br>PE 0605118OTE / *Operational Test and Evaluation (OT&E)* | **Project (Number/Name)**<br>0605118OTE / *OT&E* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2014 | FY 2015 | FY 2016 |
|---|---|---|---|
| ***Title:*** Operational Test and Evaluation | 75.720 | 74.583 | 76.838 |
| ***FY 2014 Accomplishments:***<br>Operational Test and Evaluation Oversight<br><br>This effort is in direct support of the Director's Title 10 responsibilities and is a continuing effort. Funding for FY 2014 provided Operational Test and Evaluation inputs for Test and Evaluation Master Plans, Test Plans, System Acquisition Reports, Defense Acquisition Executive Summary Reports for those programs designated for oversight by DOT&E and OUSD(AT&L). Key elements of DOT&E oversight authority are identified in Calendar Year 2014 Office of the Secretary of Defense Test and Evaluation Oversight List.<br><br>Information Assurance (IA) and Interoperability (IOP) Evaluations/Cybersecurity and Interoperability Evaluations<br><br>DOT&E oversaw and resourced 9 Combatant Command (CCMD) level and 3 Service level assessments in FY 2014. In addition to the 12 exercise assessments, 3 assessments were performed during visits to operational sites not involved in an exercise. DOT&E also began a new assessment activity with U.S. Pacific Command whereby more frequent and more focused assessment events will occur as part of a Theater Cyber Readiness Campaign (TCRC). The cyber Red Teams which supported the FY 2014 assessments used validated cyber Tactics, Techniques, and Procedures (TTP's) and incorporated more advanced cyber threats. Fiscal year 2014 evaluations included trend analyses across prior year results, both within and across CCMDs. Critical findings were transmitted to Service and DoD leadership for their awareness and remediation actions. | | | |
| ***FY 2015 Plans:***<br>Operational Test and Evaluation Oversight<br><br>This effort is in direct support of the Director's Title 10 responsibilities and is a continuing effort. Funding for FY 2015 provides Operational Test and Evaluation inputs for Test and Evaluation Master Plans, Test Plans, System Acquisition Reports, Defense Acquisition Executive Summary Reports for those programs designated for oversight by DOT&E and OUSD(AT&L). Key elements of DOT&E oversight authority are identified in Calendar Year 2015 Office of the Secretary of Defense Test and Evaluation Oversight List.<br><br>Information Assurance (IA) and Interoperability (IOP) Evaluations/Cybersecurity and Interoperability Evaluations<br><br>DOT&E will oversee and resource approximately 10 CCMD level and 4 Service level assessments in FY 2015. Three CCMDs will each conduct a TCRC consisting of bi-monthly assessments focused on improved cybersecurity technologies and/or TTPs to address problems identified in prior assessments; the campaigns will each culminate in a major exercise that examines a | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Operational Test and Evaluation, Defense | | Date: February 2015 |
|---|---|---|
| **Appropriation/Budget Activity**<br>0460 / 6 | **R-1 Program Element (Number/Name)**<br>PE 0605118OTE / *Operational Test and Evaluation (OT&E)* | **Project (Number/Name)**<br>0605118OTE / *OT&E* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2014 | FY 2015 | FY 2016 |
|---|---|---|---|
| critical mission aided by the improved technologies and TTPs. Additionally, assessment teams will observe 3 new CCMD/ Service exercises as potential venues for future assessment. The portrayal of advanced cyber threats and assessment of mission accomplishment in representative threat environments are primary planning objectives for assessments in FY 2015. The recently approved Persistent Cyber OPFOR will support these more operationally realistic and threat-representative assessments. Fiscal year 2015 evaluations will include trend analyses across prior year results, both within and across CCMDs. Critical findings will be transmitted to Service and DoD leadership for their awareness and remediation actions. The DoD Enterprise Cyber Range Environment (DECRE) will support events across multiple CCMDs for added threat realism during exercise assessments.<br>***FY 2016 Plans:***<br>Operational Test and Evaluation Oversight<br><br>This effort is in direct support of the Director's Title 10 responsibilities and is a continuing effort. Funding for FY 2016 provides Operational Test and Evaluation inputs for Test and Evaluation Master Plans, Test Plans, System Acquisition Reports, Defense Acquisition Executive Summary Reports for those programs designated for oversight by DOT&E and OUSD(AT&L). Key elements of DOT&E oversight authority are identified in Calendar Year 2016 Office of the Secretary of Defense Test and Evaluation Oversight List.<br><br>Information Assurance (IA) and Interoperability (IOP) Evaluations/Cybersecurity and Interoperability Evaluations<br><br>DOT&E will oversee and resource approximately 10 CCMD-level and 4 Service-level assessments in FY 2016. Five CCMDs will each conduct a Theater Cyber Readiness Campaign consisting of bi-monthly assessments focused on improved cybersecurity technologies or TTPs to address problems identified in prior assessments; the campaign will culminate in a major exercise that examines a critical mission aided by the improved technologies and TTPs. DOT&E will continue to work with the CCMDs to increase the portrayal of advanced cyber threats which are more representative of nation state threats. The goal is to have the majority of assessments in FY2016 include such advanced threats. Fiscal year 2016 evaluations will include trend analyses across prior year results, both within and across CCMDs. Critical findings will be transmitted to Service and DoD leadership for their awareness and remediation actions. The DoD Enterprise Cyber Range Environment (DECRE) and other cyber range assets with Red Teams portraying advanced cyber adversaries will support most CCMD exercises for added threat realism. | | | |
| **Accomplishments/Planned Programs Subtotals** | 75.720 | 74.583 | 76.838 |

| | FY 2014 | FY 2015 |
|---|---|---|
| ***Congressional Add:*** Cyber Force Training and Resiliency | - | 10.000 |

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Operational Test and Evaluation, Defense | | Date: February 2015 |
|---|---|---|
| **Appropriation/Budget Activity**<br>0460 / 6 | **R-1 Program Element (Number/Name)**<br>PE 0605118OTE / *Operational Test and Evaluation (OT&E)* | **Project (Number/Name)**<br>0605118OTE / *OT&E* |

| | FY 2014 | FY 2015 |
|---|---|---|
| ***FY 2015 Plans:*** Funding will be applied at selected locations of the Cyber Mission Force, improving the capabilities and realism of Cyber Red Teams, and assessing Cyber Protection Teams and other network defenders on both ranges and operational networks. These resources will be applied in coordination with US Cyber Command in order to maximize the training benefit to the Cyber Mission Force and to perform assessments of the resiliency of CCMD critical missions and the supporting cyber teams. | | |
| ***Congressional Add:*** PACOM Cyber<br>***FY 2015 Plans:*** Funding will be applied to growing cyber-range capabilities at US Pacific Command. | - | 4.880 |
| ***Congressional Add:*** Cyber Red Team and Training<br>***FY 2015 Plans:*** Funding to support Cyber Red Team and training exercises. | - | 3.760 |
| **Congressional Adds Subtotals** | - | 18.640 |

**C. Other Program Funding Summary ($ in Millions)**

N/A

**Remarks**

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

Performance Measure: Percentage of required operational test planning documents, assessments, 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.
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. Products included in the measure include beyond low-rate initial production reports, Test Plans, and Test and Evaluation Master Plans for operational test and evaluation oversight as well as assessment plans, “quick look” reports, and final reports for the information assurance and interoperability testing associated with scheduled test events.

| Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Operational Test and Evaluation, Defense | Date: February 2015 |
|---|---|
| **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)* |

| COST ($ in Millions) | Prior Years | FY 2014 | FY 2015 | FY 2016 Base | FY 2016 OCO | FY 2016 Total | FY 2017 | FY 2018 | FY 2019 | FY 2020 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element | 66.568 | 48.423 | 45.142 | 46.882 | - | 46.882 | 49.043 | 49.460 | 50.722 | 51.885 | Continuing | Continuing |
| 0605131OTE: *LFT&E* | 66.568 | 48.423 | 45.142 | 46.882 | - | 46.882 | 49.043 | 49.460 | 50.722 | 51.885 | Continuing | Continuing |

**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).

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 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 Life Cycle Management 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.

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, Odyssey Dawn and Inherent Resolve) 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 2014 | FY 2015 | FY 2016 Base | FY 2016 OCO | FY 2016 Total |
|---|---|---|---|---|---|
| Previous President's Budget | 48.423 | 45.142 | 47.196 | - | 47.196 |
| Current President's Budget | 48.423 | 45.142 | 46.882 | - | 46.882 |
| Total Adjustments | - | - | -0.314 | - | -0.314 |
| • Congressional General Reductions | - | - | | | |
| • Congressional Directed Reductions | - | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | - | - | | | |
| • Congressional Directed Transfers | - | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | - | - | | | |
| • Inflation Adjustment | - | - | -0.314 | - | -0.314 |

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Operational Test and Evaluation, Defense | | | Date: February 2015 |
|---|---|---|---|
| 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 2014 | FY 2015 | FY 2016 Base | FY 2016 OCO | FY 2016 Total | FY 2017 | FY 2018 | FY 2019 | FY 2020 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0605131OTE: *LFT&E* | 66.568 | 48.423 | 45.142 | 46.882 | - | 46.882 | 49.043 | 49.460 | 50.722 | 51.885 | Continuing | Continuing |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

**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).

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 Life Cycle Management 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.

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

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Operational Test and Evaluation, Defense | | Date: February 2015 |
|---|---|---|
| **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* |

learned (Enduring Freedom, Iraqi Freedom, Odyssey Dawn and Inherent Resolve) 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 2014 | FY 2015 | FY 2016 |
|---|---|---|---|
| ***Title:*** Live Fire Test and Evaluation | 48.423 | 45.142 | 46.882 |

***FY 2014 Accomplishments:***

Live Fire Test and Evaluation Major Test and Evaluation Programs

The FY 2014 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 maintained continuously 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 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.

Performed JLF projects to provide survivability data on currently fielded U.S. systems. JLF Air projects tested the vulnerability of PT6 turboprop engines, evaluated the effects of internal configuration on helicopter crew compartment fires, as well as investigated technologies/techniques to reduce generic vulnerabilities to all aircraft, such as to MANPADS, small arms, the effect of yawed projectiles and missile debris on aircraft vulnerability, the lethality of advanced projectiles, and performed a comparison of commonly used test threats. New projects investigated cabin mounted auxiliary fuel tank vulnerability, vulnerability to high energy lasers, ballistically induced hydrodynamic ram effects, and characterized fragmentation grenades. 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, improved validation data for modeling and simulation tools, the use and validity of manikins, helmets, and improvements to material characteristics used in modeling and simulation. New projects studied aging effects on fielded armor, irregular fragment penetration, behind helmet blunt trauma skull injuries, and improved ballistic clay formulations. JLF Sea

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Operational Test and Evaluation, Defense | | Date: February 2015 |
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| B. Accomplishments/Planned Programs ($ in Millions) | FY 2014 | FY 2015 | FY 2016 |
|---|---|---|---|
| projects continued to investigate ship vulnerabilities in the areas of commercial standards, equipment and component damage, vulnerabilities of designs and components for new ships, fire damage to ship components, including bulkheads, insulation, and reconfigurable spaces, investigated asymmetric boat threats, and began work on developing small boat vulnerability models. New projects investigated deep depth underwater explosions, airgun configurations for full ship shock trial alternatives, and explored configurations for augmenting ballistic manikins.<br><br>Joint Aircraft Survivability Program (JASP)<br><br>In FY 2014 the JASP continued work on 31 multi-year RDT&E projects and initiated 20 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 42 reports documenting efforts accomplished in FY 2014.<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<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 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) v5.2.1 was released in April 2014 to provide aircraft survivability data. | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Operational Test and Evaluation, Defense | | Date: February 2015 |
|---|---|---|
| **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 2014 | FY 2015 | FY 2016 |
|---|---|---|---|
| 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 ongoing 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 v5.2.1 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 v5.2.1 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 v5.2.1 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). Additionally, Joint Anti-Air Model (JAAM) was integrated into the Individual Combat Aircrew Display System (ICADS) and the Personal Computer Debriefing System (PCDS) for direct use for tactics, planning, and training at operational test squadrons for fighters and bombers.<br><br>To more effectively support operational mission planning, particularly at USSTRATCOM, the J-ACE v5.2.1 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.<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., SDB II, Griffin, Hellfire, GBU-49/BLU-133, etc.). In addition, the JTCG/ME released Digital Precision Strike Suite (DPSS) Collateral Damage Estimation (DCiDE) v1.1.1 with “Route CDE Capability” for operational use. This new capability has been used in support of multiple kinetic strikes since being loaded at the Task Force in Afghanistan. This tool displays accredited Collateral Damage Estimate Level 1-5 A-C series effective radii reference tables. Additionally, JTCG/ME trained nearly 300 users at 12 different Commands to support Collateral Damage Estimation decisions.<br><br>In support of JMEM methodology improvement, the JTCG/ME accredited two analytical models according to JTCG/ME approved guidelines (i.e., Process Guide-2). These models are Joint Blast Analysis Model (JBAM) v1.2.2 and Integrated Munitions Effects Assessment (IMEA) v11.0. | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Operational Test and Evaluation, Defense | | Date: February 2015 |
|---|---|---|
| **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 2014 | FY 2015 | FY 2016 |
|---|---|---|---|
| To address emerging Cyber Operations Joint Munitions Effectiveness Manual (JMEM), JTCG/ME re-deployed Joint Capability Analysis and Assessment System (JCAAS) tools: Computer Network Attack Risk and Effectiveness Analyzer (CREA); Network Risk Assessment Tool (NRAT); Communications & Radar Electronic Attack & Planning Effectiveness Reference (CREAPER); Effectiveness of Psychological Influence Calculator (EPIC); and Joint Broadcast Analysis Tool (JBAT). Joint Capabilities Analysis and Assessment System in development to provide a shared interface for operational users in selecting the capabilities to best meet given objectives based on capability effectiveness derived from target vulnerability and capability characteristics. The JCAAS Cyber scope included weapon characterization; coordinating test and target data development; testing and evaluation Cyber data standards; and developing new database schema for Electronic Warfare mission planning. | | | |
| ***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 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 maintained continuosly 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. Continue to perform JLF projects to provide survivability data on currently fielded U.S. systems.<br><br>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 CV-22 armor, ballistic vulnerability of fuel systems on light aircraft, percentage of oxygen allowed to prohibit fuel tank ullage explosions, and functioning of yawed armor piercing incendiary threats. 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 fielded weapons effects to support warfighter collateral damage estimates and weapon lethality against MOUT structures. 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 | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Operational Test and Evaluation, Defense | | Date: February 2015 |
|---|---|---|
| **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 2014 | FY 2015 | FY 2016 |
|---|---|---|---|
| commercial standards, equipment and component damage, and will investigate vulnerabilities of designs and components for new ships.<br><br>JASP<br><br>In FY 2015 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 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.<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<br><br>JTCG/ME will continue to field critical JMEMs to enable on-going COCOM operational Weaponeering and collateral damage estimation calls. In support of operational commanders, DoD targeteers, weaponeers, and planners, the JTCG/ME will release JMEM Weaponeering System (JWS) v2.2 and v2.3, Digital Precision Strike Suite (DPSS) Collateral Damage Estimation (DCiDE) Tool Version 1.2 and the Joint-Anti-air Combat Effectiveness System (J-ACE) Air Superiority (AS) v5.3 in FY 2015.<br><br>JWS v2.2 will include an initial DCiDE connectivity, FIST Updates (i.e., quasi-static blast, building types, etc.) and additional updates. In total, 220 methodology, functionality, weapons/warheads/fuzes and target updates are included.<br><br>JWS v2.3 will include a new Imagery Interface to implement aimpoint development leveraging the Tasked Target Text Data (T3D) data format implemented by currently fielded mission planning systems. JWS software and T3D imagery interface will be modified | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Operational Test and Evaluation, Defense | | Date: February 2015 |
|---|---|---|
| **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 2014 | FY 2015 | FY 2016 |
|---|---|---|---|
| to support integration of Electronic Light Table (ELT) viewers. Also, Modernized Integrated Database (MIDB) and Joint Targeting Toolbox (JTT) interfaces will be developed with additional capabilities to support connectivity. These developments will enable the integration of Weaponeering, Precision Point Mensuration (PPM) and Collateral Damage Estimation.<br><br>JWS v2.3 will also add the updated Gunship Delivery Accuracy Program (GDAP); Rotary Wing Delivery Accuracy Program (RWDAP); Fast Integrated Structural Tool (FIST) v1.2.<br><br>Based on the current guidance and direction from Joint Staff, this JWS 2.2 and future versions 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, Joint Anti Air Model (JAAM) will be updated to include the effect of weapon system reliability on the probability of a successful engagement. Also, HIVE/BLUEMAX6 will be developed, integrated, and tested for aircraft aero performance models. BlueMax6 provides 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 allow pilots, while developing threat engagement or evasive maneuvers, to consider ECM protection with respect to the threat position. JAAM-HIVE-ESAMS software interface will be completed to enable Blue CM evaluations against Red Surface to Air Missiles.<br><br>In support of Joint Capability Analysis and Assessment System (JCAAS), Cyber JMEM tools - Computer Network Attack Risk and Effectiveness Analyzer (CREA) and Network Risk Assessment Tool (NRAT) will be updated and upgraded based on Cyber operational users feedback. Additionally, range testing of Cyber capabilities and targets will be performed to provide empirical evidence of effectiveness and risk associated with the operational employment of cyber capabilities against representative targets. Test data will be collected, analyzed, archived, and reviewed – and as conditions warrant, submitted to JTCG/ME for accreditation as authoritative effectiveness and risk data for specified capability-target pairings with documented environmental conditions.<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. | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Operational Test and Evaluation, Defense | | Date: February 2015 |
|---|---|---|
| **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 2014 | FY 2015 | FY 2016 |
|---|---|---|---|
| JTCG/ME will also conduct requirement analysis of the current JWS, J-ACE, and DCiDE software to determine options to enhance long-term software maintainability and flexibility to include structural and architectural changes.<br><br>***FY 2016 Plans:***<br>Live Fire Test and Evaluation Major Test and Evaluation Programs<br><br>This is a continuing effort. The FY 2016 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 maintained continuously and published annually.<br><br>JLF Programs<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>JASP<br><br>In FY 2016 the JASP will continue work on at least 26 multi-year RDT&E projects and initiate 12-17 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 | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Operational Test and Evaluation, Defense | | Date: February 2015 |
|---|---|---|
| **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 2014 | FY 2015 | FY 2016 |
|---|---|---|---|
| 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<br><br>In support of operational commanders, DoD targeteers, weaponeers, and planners, the JTCG/ME will develop and release JMEM Weaponeering System (JWS) v3.0 and Joint-Anti-air Combat Effectiveness System (J-ACE) Air Superiority (AS) v5.4 during FY 2016.<br><br>JWS v3.0 efforts will include Joint Mean Area Effects (JMAE) v2.2, Non-Linear Blast Tool (NBT) v1.0, Moving Target Methodology (MTM), Small Precision Munition (SPM) methodology, bomb burial interim methodology, Average Metrics (AvMat) v2.0, Joint Gun Effectiveness Model (JGEM) v3.1, Fast Integrated Structural Tool (FIST) v2.0, Penetration and Cratering Effects (PCEffects), Bridge Analysis System (BAS), Linear Target Module (LTM), Precision Munitions Planning Tool (PMPT).<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); enhance Personal Computer Debriefing System (PCDS) capability; evaluate HIVE/BLUEMAx6 and HERCULES to include consideration of man-in-the-loop stick and throttle maneuver input; address use of standard aircraft Operational Flight Program (OFP) weapons symbols/terminology with JAMM; and develop JAAM capability to evaluate two sided Suppression of Enemy Air Defense (SEAD) and Destruction of Enemy Air Defense (DEAD).<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.<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, Joint Capability Analysis and Assessment System (JCAAS) and Anti-air). Finally providing connectivity to real time planning systems assessing time sensitive targets will be addressed. | | | |
| **Accomplishments/Planned Programs Subtotals** | 48.423 | 45.142 | 46.882 |

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Operational Test and Evaluation, Defense | | Date: February 2015 |
|---|---|---|
| **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* |

**C. Other Program Funding Summary ($ in Millions)**

N/A

**Remarks**

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

(U) 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.

| Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Operational Test and Evaluation, Defense | Date: February 2015 |
|---|---|
| **Appropriation/Budget Activity**<br>0460: *Operational Test and Evaluation, Defense* / BA 6: *RDT&E Management Support* | **R-1 Program Element (Number/Name)**<br>PE 0605814OTE / *Operational Test Activities and Analyses* |

| COST ($ in Millions) | Prior Years | FY 2014 | FY 2015 | FY 2016 Base | FY 2016 OCO | FY 2016 Total | FY 2017 | FY 2018 | FY 2019 | FY 2020 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element | 178.501 | 121.948 | 70.346 | 46.838 | - | 46.838 | 47.810 | 48.864 | 49.858 | 49.458 | Continuing | Continuing |
| 0605814OTE: *OTA&A* | 178.501 | 121.948 | 70.346 | 46.838 | - | 46.838 | 47.810 | 48.864 | 49.858 | 49.458 | Continuing | Continuing |

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

The Operational Test Activities and Analyses (OTA&A) programs are continuing efforts that provide management and oversight of test and evaluation functions and expertise to the Department of Defense (DoD). The OTA&A programs consist of three activities: Joint Test and Evaluation (JT&E); Threat Systems (TS); and Center for Countermeasures (CCM).

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 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. Threat Systems provides DOT&E assessment officers and other DOT&E activities 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) T&E Activity, directs, coordinates, supports, and conducts independent countermeasure/counter-countermeasure (CCM) T&E activities of U.S. and foreign weapon systems, subsystems, sensors, and related components. The Center accomplishes this work in support of DOT&E, Deputy Assistant Secretary of Defense (DASD) for Developmental Test and Evaluation (DT&E), weapon system developers, and the Services. The Center's testing and analyses directly supports operational effectiveness and suitability evaluations of CM/CCM systems, such as missile warning and aircraft survivability equipment (ASE), used on rotary-wing and fixed-wing aircraft. The Center develops unique CM/CCM test equipment to support testing in operationally realistic environments. The Center determines effectiveness of precision guided weapon (PGW) systems and subsystems when operating in an environment degraded by CMs. Analysis and recommendations on CM/CCM effectiveness are provided to Service Program Offices, DOT&E, DASD (DT&E), and the Services. The Center also supports Service member exercises, training, and pre-deployment activities with expertise on CM/CCM technology and capabilities.

This Program Element includes funds to obtain Federally Funded Research and Development support and travel funds.

| Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Operational Test and Evaluation, Defense | Date: February 2015 |
|---|---|
| **Appropriation/Budget Activity**<br>0460: *Operational Test and Evaluation, Defense* / BA 6: *RDT&E Management Support* | **R-1 Program Element (Number/Name)**<br>PE 0605814OTE / *Operational Test Activities and Analyses* |

| B. Program Change Summary ($ in Millions) | FY 2014 | FY 2015 | FY 2016 Base | FY 2016 OCO | FY 2016 Total |
|---|---|---|---|---|---|
| Previous President's Budget | 62.157 | 48.013 | 47.152 | - | 47.152 |
| Current President's Budget | 121.948 | 70.346 | 46.838 | - | 46.838 |
| Total Adjustments | 59.791 | 22.333 | -0.314 | - | -0.314 |
| • Congressional General Reductions | - | - | | | |
| • Congressional Directed Reductions | -0.709 | -0.667 | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | 60.500 | 23.000 | | | |
| • Congressional Directed Transfers | - | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | - | - | | | |
| • Inflation/Economic Assumptions | - | - | -0.314 | - | -0.314 |

| Congressional Add Details ($ in Millions, and Includes General Reductions) | FY 2014 | FY 2015 |
|---|---|---|
| **Project:** 0605814OTE: *OTA&A* | | |
| Congressional Add: *Electronic Warfare Test Capability* | 60.500 | - |
| Congressional Add: *Joint Test and Evaluation* | - | 18.000 |
| Congressional Add: *Threat Resource Analysis* | - | 5.000 |
| Congressional Add Subtotals for Project: 0605814OTE | 60.500 | 23.000 |
| Congressional Add Totals for all Projects | 60.500 | 23.000 |

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Operational Test and Evaluation, Defense | | | Date: February 2015 |
|---|---|---|---|
| **Appropriation/Budget Activity**<br>0460 / 6 | **R-1 Program Element (Number/Name)**<br>PE 0605814OTE / *Operational Test Activities and Analyses* | **Project (Number/Name)**<br>0605814OTE / *OTA&A* | |

| COST ($ in Millions) | Prior Years | FY 2014 | FY 2015 | FY 2016 Base | FY 2016 OCO | FY 2016 Total | FY 2017 | FY 2018 | FY 2019 | FY 2020 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0605814OTE: *OTA&A* | 178.501 | 121.948 | 70.346 | 46.838 | - | 46.838 | 47.810 | 48.864 | 49.858 | 49.458 | Continuing | Continuing |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

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

The Operational Test Activities and Analyses (OTA&A) programs are continuing efforts that provide management and oversight of test and evaluation functions and expertise to the Department of Defense (DoD). The OTA&A programs consist of three activities: Joint Test and Evaluation (JT&E); Threat Systems (TS); and, the Center for Countermeasures (CCM).

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2014 | FY 2015 | FY 2016 |
|---|---|---|---|
| ***Title:*** Operational Test Activities and Analyses | 61.448 | 47.346 | 46.838 |

***FY 2014 Accomplishments:***

Joint Test and Evaluation (JT&E)

In FY 2014, JT&E had two projects close and three projects ongoing from FY 2013. The Joint Deployable Integrated Air and Missile Defense Joint Test closed in June 2014. The test developed, tested and evaluated tactics, techniques, and procedures to enable the joint task force commander to employ integrated deployable air, cruise missile, and theater ballistic missile defense capabilities. The Joint Advanced Capability Employment Joint Test closed in August 2014. The test developed a testable and repeatable methodology for the joint task force commander to employ advanced capabilities to overcome complex targeting challenges.

Six new feasibility studies were conducted in FY 2014, four of which were selected to conduct joint tests.

Threat Systems

In FY 2014, Threat Systems initiated actions to significantly reduce its DOT&E funded investment program due to budget restrictions. These reductions affected DOT&E's ability to make strategic investments to reduce limitations to test due to inadequate threat portrayal. All other Threat Systems support continued.

Threat Systems continued test planning working group participation and performed technical analyses to identify threat shortfalls; conducted special studies and provided current intelligence support tailored to specific U.S. weapon systems acquisitions; continued managing intelligence "deep dives" to produce intelligence in sufficient detail to develop new threat test assets; operated and maintained the modeling and simulation configuration control board for threat models and simulation used in test

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Operational Test and Evaluation, Defense | | Date: February 2015 |
|---|---|---|
| **Appropriation/Budget Activity**<br>0460 / 6 | **R-1 Program Element (Number/Name)**<br>PE 0605814OTE / *Operational Test Activities and Analyses* | **Project (Number/Name)**<br>0605814OTE / *OTA&A* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2014 | FY 2015 | FY 2016 |
|---|---|---|---|

facilities; and, continued the development and implementation of a tri-Service and Allied threat M&S roadmap to ensure infrared countermeasure systems have sufficient threat test assets. Threat Systems proposed, managed and oversaw threat test assets funded by the Test Resource Management Center that support DOT&E-identified threat shortfalls, identified candidate threat systems from the various intelligence agencies for possible development of models for use in test and evaluation. Threat Systems also continued efforts to maintain a standard set of threat performance models.

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.

The Center

The Center completed 31 T&E activities and analyzed and reported on more than 30 different systems, with special emphasis on rotary wing survivability, CM/CCM employment, warning and targeting systems, and PGWs. Most programs supported received an independent assessment of our data/findings and test support for their CM/CCM evaluations. Approximately 55% of the Center's efforts were spent on aircraft survivability equipment (ASE) testing; with the majority of these efforts in support of rotary wing aircraft. About 21% of the Center's efforts were spent on PGW, foreign systems, and other types of field testing not related to ASE. Approximately 7% of the Center's efforts were dedicated to training support, with emphasis on CM–based, pre-deployment training for rotary wing units. Fifteen percent of the Center's efforts were spent on internal programs to improve test capabilities and to develop test methodologies for new types of T&E activities. The Center continued to develop multiple test tools for evaluating ASE infrared countermeasure (IRCM) systems and HFI systems. In addition, the Center is improving its electronic warfare capability with the development of the high-power Portable Range Threat Simulator that will provide a more comprehensive integrated ASE T&E environment. Our support was distributed across all the Services, as well as intelligence agencies and research and development activities. About 2% of the Center's efforts consisted of providing subject matter expertise and other support not directly related to scheduled test activities.

The Center provided expertise to many organizations and was actively involved in the following panels: Joint Expendable Countermeasures (JECM) Integrated Product Team, Joint Infrared Countermeasures Multi Sensing Symposia Working Group (MSS IRCM WG), Joint Aircraft Survivability Program (JASP), Foreign Material Exploitation Working Group, Foreign Material Program T&E Subcommittee, Joint Countermeasures T&E Working Group (JCMT&E WG), and JCMT&E WG Hostile Fire Indicator (HFI) subgroup lead.

***FY 2015 Plans:***
Joint Test and Evaluation (JT&E)

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Operational Test and Evaluation, Defense | | Date: February 2015 |
|---|---|---|
| **Appropriation/Budget Activity**<br>0460 / 6 | **R-1 Program Element (Number/Name)**<br>PE 0605814OTE / *Operational Test Activities and Analyses* | **Project (Number/Name)**<br>0605814OTE / *OTA&A* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2014 | FY 2015 | FY 2016 |
|---|---|---|---|
| In FY 2015, JT&E has two projects slated to close and an estimated four projects ongoing from FY 2014. Joint Counter Low, Slow, Small Unmanned Aircraft Systems (UAS), scheduled to close in April 2015, developed and tested integrated air and missile defense operator procedures in order to increase an operator's ability to detect, track, and identify low, slow, and small UASs and provide timely notification to the commander of the area air defense. The Unmanned Aircraft Systems Airspace Integration Joint Test, scheduled to close in July 2015, developed and tested DoD UAS procedures to support effective UAS flight operations in the National Airspace System.<br><br>Four new feasibility studies will be conducted in FY 2015, two of which will be selected to conduct joint tests.<br><br>Threat Systems<br><br>In FY 2015, Threat Systems will continue test planning working group participation and perform technical analyses to identify threat shortfalls; conduct special studies and provide current intelligence support tailored to specific U.S. weapon systems acquisitions. Threat Systems will: provide intelligence support to DOT&E staff to address specific questions on threat systems affecting programs on the OSD T&E Oversight list; provide briefings and special intelligence reports when necessary; sustain and manage threat M&S to support test and evaluation by overseeing and coordinating intelligence community developed threat models, performing threat model anomaly resolution resolving differences from live fire testing, integrating threat models into T&E facilities and distributing performance and signature models to T&E users; manage Integrated Technical Evaluation and Analysis of Multiple Sources (ITEAMS) efforts supporting programs on the OSD T&E Oversight List by conducting intelligence "deep dives" to produce intelligence in sufficient detail to develop new threat test assets; initiate new ITEAMS leading to the development of new threat systems for T&E if funding is available; represent DOT&E at foreign material exchanges, inter-agency coordinating groups, and non-proliferation groups to raise awareness of T&E needs for foreign material, coordinate service requirements, and de-conflict and prioritize foreign material requirements for T&E; represent DOT&E at the Intelligence Mission Data Oversight Board responsible for development, production and sharing issues affecting the intelligence data supporting weapons systems acquisition; and Oversee legacy DOT&E investments and continue management and oversight of legacy and new Test Resource Management Center-funded threat system investments.<br><br>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.<br><br>The Center<br><br>The Center is scheduled to test, analyze, and report on more than 30 systems and subsystems, with emphasis on rotary wing survivability, CM/CCM employment, and PGWs. Each program supported will receive an independent assessment of our data/ | | | |

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| B. Accomplishments/Planned Programs ($ in Millions) | FY 2014 | FY 2015 | FY 2016 |
|---|---|---|---|

findings and test support for CM/CCM evaluations. The Center will continue to emphasize support of DOT&E priorities, with a clear focus on Title 10 weapons systems, aircraft survivability and hostile fire initiatives. The Center will continue to conduct ongoing investigations towards determining and filling the gaps in EW and multimode system testing. In addition to these test activities, the Center will continue to provide CM expertise in pre-deployment events and training, as well as CM/CCM-focused tactics, techniques and procedures (TTP) development. The Center will complete the initial development of the MSALTS and JSIS, which will be used in support of testing for both Title 10 programs and ASE urgent operational needs. The Center will complete the development of a new Remote Launch System capable of launching larger diameter missiles. The Center will continue working with the Threat Simulator Working Group (TSWG)-sponsored HSIG model. Our 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 continue to be actively involved in the following panels: JECM Integrated Product Team, Joint Infrared Countermeasures Multi Sensing Symposia Working Group (MSS IRCM WG), JASP, Foreign Material Exploitation Working Group, Foreign Material Program T&E Subcommittee, JCMT&E WG, and JCMT&E WG HFI subgroup lead.

***FY 2016 Plans:***

Joint Test and Evaluation (JT&E)

In FY 2016 JT&E has four projects slated to close and an estimated two projects ongoing from FY 2015. The Joint Base Architecture for Secure Industrial Control Systems Joint Test, anticipated to close in December 2015, will assess and refine joint industrial control systems network tactics, techniques, and procedures to better identify, mitigate, and recover from advanced, persistent cyber-attacks. The Joint Tactical Air Picture Joint Test is scheduled to close in December 2015 and will develop tactics, techniques, and procedures to provide an improved tactical air picture that decreases the risk of hostile attacks and fratricide as well as increases the effective use of integrated air and missile defense systems.

Four new feasibility studies will be conducted in FY 2016, two of which will be selected to conduct joint tests.

Threat Systems

In FY 2016, Threat Systems will continue test planning working group participation and perform technical analyses to identify threat shortfalls; conduct special studies and provide current intelligence support tailored to specific U.S. weapon systems acquisitions. Threat Systems will: provide intelligence support to DOT&E staff to address specific questions on threat systems affecting programs on the OSD T&E Oversight list and provide briefings and special intelligence reports when necessary; sustain and manage threat M&S to support test and evaluation by overseeing and coordinating intelligence community developed threat

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| **Appropriation/Budget Activity**<br>0460 / 6 | **R-1 Program Element (Number/Name)**<br>PE 0605814OTE / *Operational Test Activities and Analyses* | **Project (Number/Name)**<br>0605814OTE / *OTA&A* |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2014 | FY 2015 | FY 2016 |
|---|---|---|---|
| models, performing threat model anomaly resolution resolving differences from live fire testing, integrating threat models into T&E facilities and distributing performance and signature models to T&E users; manage Integrated Technical Evaluation and Analysis of Multiple Sources (ITEAMS) efforts supporting programs on the OSD Oversight T&E List by conducting intelligence "deep dives" to produce intelligence in sufficient detail to develop new threat test assets; initiate new ITEAMS leading to the development of new threat systems for T&E if funding is available; represent DOT&E at foreign material exchanges, inter-agency coordinating groups, and non-proliferation groups to raise awareness of T&E needs for foreign material, coordinate service requirements, and de-conflict and prioritize foreign material requirements for T&E; represent DOT&E at the Intelligence Mission Data Oversight Board responsible for development, production and sharing issues affecting the intelligence data supporting weapons systems acquisition; and, oversee legacy DOT&E investments and continue management and oversight of legacy and new Test Resource Management Center-funded threat system investments.<br><br>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.<br><br>The Center<br><br>The Center will test, analyze, and report on more than 30 systems, with special emphasis on aircraft survivability, CM/CCM employment, warning and targeting systems, and PGWs. Each program supported will receive an independent assessment of our data/findings and test support for CM/ 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. Furthermore, the Center will continue to provide CM expertise in pre-deployment events and training, as well as CM/CCM-focused TTP development. The Center will continue Improvement and Modernization (I&M) efforts to improve our T&E capabilities. The Center will continue to work with the TSWG-sponsored HSIG model. Our support will be distributed across all the Services, as well as intelligence agencies and research and development activities.<br><br>The Center will provide expertise to many organizations and will continue to be actively involved in the following panels: JECM Integrated Product Team, Joint Infrared Countermeasures Multi Sensing Symposia Working Group (MSS IRCM WG), JASP, Foreign Material Exploitation Working Group, Foreign Material Program T&E Subcommittee, JCMT&E WG, and JCMT&E WG HFI subgroup lead. | | | |
| **Accomplishments/Planned Programs Subtotals** | 61.448 | 47.346 | 46.838 |

| | FY 2014 | FY 2015 |
|---|---|---|
| ***Congressional Add:*** Electronic Warfare Test Capability | 60.500 | - |

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| | FY 2014 | FY 2015 |
|---|---|---|
| ***FY 2014 Accomplishments:*** During FY 2014 the funds were used to procure the CEAFAR2, a suite of radar threat simulator equipment designed to emulate the transmitter characteristics of various foreign radar systems. | | |
| ***Congressional Add:*** Joint Test and Evaluation<br>***FY 2015 Plans:*** Funding will provide for one additional Joint Test and several Quick Reaction Tests. | - | 18.000 |
| ***Congressional Add:*** Threat Resource Analysis<br>***FY 2015 Plans:*** The funds will be used to increase threat Intel support to DOT&E and will be used to create threat realism in testing. Specifically increase Cyber Intel support to define the up and coming threats. Funds will also be used to expand current Modeling and Simulation configuration management to include Radio Frequency. Other projects to capture the data and capabilities of threat test assets will also be enhanced. | - | 5.000 |
| **Congressional Adds Subtotals** | 60.500 | 23.000 |

**C. Other Program Funding Summary ($ in Millions)**

N/A

**Remarks**

FFRDC general reduction

**D. Acquisition Strategy**

Not Applicable

**E. Performance Metrics**

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