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**Department of Defense
Fiscal Year (FY) 2014 President's Budget Submission**

April 2013



Operational Test and Evaluation, Defense

Justification Book

Operational Test and Evaluation, Defense

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Operational Test and Evaluation, Defense • President's Budget Submission FY 2014 • RDT&E Program

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Department of Defense
 FY 2014 President's Budget
 Exhibit R-1 FY 2014 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

13 Mar 2013

Appropriation	FY 2012 (Base & OCO)	FY 2013 Base Request with CR Adj*	FY 2013 OCO Request with CR Adj*	Emergency Disaster Relief Act of 2013	FY 2013 Total Request with CR Adj*	FY 2014 Base
Operational Test & Eval, Defense	188,037	189,188			189,188	186,300
Total Research, Development, Test & Evaluation	188,037	189,188			189,188	186,300

R-1C: FY 2014 President's Budget (Published Version), as of March 13, 2013 at 08:27:18

* Reflects the FY 2013 President's Budget with an undistributed adjustment to match the Annualized Continuing Resolution funding level by appropriation.

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Department of Defense
 FY 2014 President's Budget
 Exhibit R-1 FY 2014 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

13 Mar 2013

Summary Recap of Budget Activities	FY 2012 (Base & OCO)	FY 2013 Base Request with CR Adj*	FY 2013 OCO Request with CR Adj*	Emergency Disaster Relief Act of 2013	FY 2013 Total Request with CR Adj*	FY 2014 Base
Management Support	188,037	185,268			185,268	186,300
Undistributed		3,920			3,920	
Total Research, Development, Test & Evaluation	188,037	189,188			189,188	186,300
Summary Recap of FYDP Programs						
Research and Development	188,037	185,268			185,268	186,300
Administration and Associated Activities		3,920			3,920	
Total Research, Development, Test & Evaluation	188,037	189,188			189,188	186,300

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Defense-Wide
 FY 2014 President's Budget
 Exhibit R-1 FY 2014 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

13 Mar 2013

	FY 2012 (Base & OCO)	FY 2013 Base Request with CR Adj*	FY 2013 OCO Request with CR Adj*	Emergency Disaster Relief Act of 2013	FY 2013 Total Request with CR Adj*	FY 2014 Base

Summary Recap of Budget Activities						

Management Support	188,037	185,268			185,268	186,300
Undistributed		3,920			3,920	
Total Research, Development, Test & Evaluation	188,037	189,188			189,188	186,300
Summary Recap of FYDP Programs						

Research and Development	188,037	185,268			185,268	186,300
Administration and Associated Activities		3,920			3,920	
Total Research, Development, Test & Evaluation	188,037	189,188			189,188	186,300

R-1C: FY 2014 President's Budget (Published Version), as of March 13, 2013 at 08:27:18

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Defense-Wide
 FY 2014 President's Budget
 Exhibit R-1 FY 2014 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

13 Mar 2013

Appropriation: 0460D Operational Test & Eval, Defense

Line No	Program Element Number	Item	Act	FY 2012 (Base & OCO)	FY 2013 Base Request with CR Adj*	FY 2013 OCO Request with CR Adj*	Emergency Disaster Relief Act of 2013	FY 2013 Total Request with CR Adj*	FY 2014 Base	Sec
1	0605118	OTE Operational Test and Evaluation	06	62,444	72,501			72,501	75,720	U
2	0605131	OTE Live Fire Test and Evaluation	06	12,126	49,201			49,201	48,423	U
3	0605814	OTE Operational Test Activities and Analyses	06	113,467	63,566			63,566	62,157	U
		Management Support		188,037	185,268			185,268	186,300	
4	0901560	OTE Continuing Resolution Programs	20		3,920			3,920		U
		Undistributed			3,920			3,920		
Total Operational Test & Eval, Defense				188,037	189,188			189,188	186,300	

R-1C: FY 2014 President's Budget (Published Version), as of March 13, 2013 at 08:27:18

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Operational Test and Evaluation, Defense • President's Budget Submission FY 2014 • RDT&E Program

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

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Operational Test and Evaluation, Defense • President's Budget Submission FY 2014 • RDT&E Program

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

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Operational Test Activities and Analyses	0605814OTE	3	06.....	19
Operational Test and Evaluation	0605118OTE	1	06.....	1

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Operational Test and Evaluation, Defense **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 0460: <i>Operational Test and Evaluation, Defense</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605118OTE: <i>Operational Test and Evaluation</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	62.444	72.501	75.720	-	75.720	78.743	82.453	84.882	94.299	Continuing	Continuing
0605118OTE: OT&E	-	62.444	72.501	75.720	-	75.720	78.743	82.453	84.882	94.299	Continuing	Continuing

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

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

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.

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

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 program, funds for Service teams performing information assurance and interoperability assessments during exercises, and contractor support related to the conduct of operational test and evaluation and exercise assessments.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Operational Test and Evaluation, Defense **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 0460: <i>Operational Test and Evaluation, Defense</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605118OTE: <i>Operational Test and Evaluation</i>
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B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	60.444	72.501	73.546	-	73.546
Current President's Budget	62.444	72.501	75.720	-	75.720
Total Adjustments	2.000	0.000	2.174	-	2.174
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.000	-			
• SBIR/STTR Transfer	-	-			
• Enhancements for Cyber Range	-	-	2.200	-	2.200
• Program Realignment/Adjustments	-	-	-0.026	-	-0.026

Change Summary Explanation

As a result of the Department's recognition of the importance of enhanced cyber assessment capabilities, additional resources were added in fiscal year 2014. Program Realignment made in support of an administrative contract (\$1.225) and other programmatic adjustments (-\$1.251).

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Operational Test and Evaluation, Defense **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 0460: <i>Operational Test and Evaluation, Defense</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605118OTE: <i>Operational Test and Evaluation</i>	PROJECT 0605118OTE: <i>OT&E</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0605118OTE: <i>OT&E</i>	-	62.444	72.501	75.720	-	75.720	78.743	82.453	84.882	94.299	Continuing	Continuing
Quantity of RDT&E Articles												

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

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Director of Operational Test and Evaluation (DOT&E) is responsible under Title 10 for policy and procedures for all aspects of operational test and evaluation 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 over 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)/ Test and Evaluation Strategies.
- 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 of 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.

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

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 program and administration support services.

B. Accomplishments/Planned Programs (\$ in Millions)

Title: Operational Test and Evaluation	FY 2012	FY 2013	FY 2014
	62.444	72.501	75.720
FY 2012 Accomplishments: Operational Test and Evaluation Oversight			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Operational Test and Evaluation, Defense	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 0460: <i>Operational Test and Evaluation, Defense</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605118OTE: <i>Operational Test and Evaluation</i>	PROJECT 0605118OTE: <i>OT&E</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2012	FY 2013	FY 2014
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This effort is in direct support of the Director's Title 10 responsibilities and is a continuing effort. Funding for FY 2012 provided Operational Test and Evaluation inputs for Test and Evaluation Master Plans, Test Plans, System Acquisition Reports, Operational Assessment Reports, and 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 2012 Office of the Secretary of Defense Test and Evaluation Oversight List.

Information Assurance (IA) and Interoperability (IOP) Evaluations

DOT&E oversaw and resourced 16 CCMD level and 6 Service level IA and/or IOP assessments in FY12. Four other approved assessments were cancelled due to scheduling issues or changes to the scope of the exercise. Of the 22 assessments executed in FY12, three were conducted of units deployed to theaters of operations, resulting in enhancements to their network defense postures. Warfighter responses to computer network attack (ability to protect, detect, react, and restore) were captured in all IA assessments and several included the portrayal of advanced cyber threats. A more rigorous process, including expanded research requirements and linkage to mission threads, was instituted for IOP assessments. Fiscal year 2012 IA and IOP 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, as appropriate. DOT&E initiated efforts to support implementation on the CJCS EXORD as part of the assessment planning process, including development of threat assessments of the advanced cyber adversary and alignment Red Teams with these threat assessments. A DOT&E issue paper to the FY13 program review resulted in additional funds for enhanced threat assessments and Red Team portrayal (FY13-FY17). The Joint Information Operations Range (JIOR) supported three assessment events for added operational realism, and planning is underway to expand JIOR support to future exercise assessments.

FY 2013 Plans:

Operational Test and Evaluation Oversight

This effort is in direct support of the Director's Title 10 responsibilities and is a continuing effort. Funding for FY 2013 will provide Operational Test and Evaluation inputs for Test and Evaluation Master Plans, Test Plans, System Acquisition Reports, Operational Assessment Reports, and 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 2013 Office of the Secretary of Defense Test and Evaluation Oversight List.

Information Assurance (IA) and Interoperability (IOP) Evaluations

	FY 2012	FY 2013	FY 2014

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Operational Test and Evaluation, Defense	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 0460: <i>Operational Test and Evaluation, Defense</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605118OTE: <i>Operational Test and Evaluation</i>	PROJECT 0605118OTE: <i>OT&E</i>
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B. Accomplishments/Planned Programs (\$ in Millions)

DOT&E will oversee and resource approximately 11 CCMD level and 4 Service level IA and IOP assessments in FY 2013. Full assessment of warfighter responses to computer network attack (ability to protect, detect, react, and restore) will be captured in all IA assessment events. The portrayal of selected advanced-cyber threats, in accordance with the CJCS Red Team EXORD, and the focused assessment of critical mission accomplishment in representative threat environments is a primary objective for most IA and IOP evaluations in FY13. In partnership with US Cyber Command, DoD Red Team capabilities will be enhanced to reflect DIA assessments, and application of these teams will be synchronized across assessment priorities. Assessment support to units deployed to warfighting theaters of operation will continue as needed. Fiscal year 2013 IA and IOP 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, as appropriate. The Joint Information Operations Range (JIOR) will support events across multiple CCMDs for added threat realism and required security during exercise assessments. New resources and emphasis will be added in FY13 as a result of a successful issue paper for enhanced cyber assessment capabilities. Enhancements will include expanded threat assessments of the advanced cyber adversary, more representative portrayal of the cyber adversary by Red Teams, and improvements to the JIOR that will support more operationally realistic and threat representative assessment and training events.

FY 2014 Plans:

Operational Test and Evaluation Oversight

This effort is in direct support of the Director's Title 10 responsibilities and is a continuing effort. Funding for FY 2014 will provide Operational Test and Evaluation inputs for Test and Evaluation Master Plans, Test Plans, System Acquisition Reports, Operational Assessment Reports, and 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.

Information Assurance (IA) and Interoperability (IOP) Evaluations

DOT&E will oversee and resource approximately 15 CCMD level IA and IOP assessments in FY 2014. Full assessment of warfighter responses to computer network attack (ability to protect, detect, react, and restore) will be captured in all IA events. Portrayal of advanced-cyber threats will be part of all assessments. In accordance with the CJCS Red Team EXORD, and assessments will focus on the accomplishment of critical operational mission in representative threat environments consistent with the scope and purpose of the specific exercise. In partnership with US Cyber Command, DoD Red Team capabilities will be enhanced to reflect DIA cyber threat assessments, and application of these teams will be synchronized across Cyber Command and DOT&E priorities. Assessment support to units deploying to theaters of operation will continue as needed. Fiscal year 2014 IA and IOP evaluations will include trend analyses across prior year results, both within and across CCMDs. Critical findings will

FY 2012	FY 2013	FY 2014

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Operational Test and Evaluation, Defense **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 0460: <i>Operational Test and Evaluation, Defense</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605118OTE: <i>Operational Test and Evaluation</i>	PROJECT 0605118OTE: <i>OT&E</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2012	FY 2013	FY 2014
be transmitted to Service and DoD leadership for their awareness and remediation actions, as appropriate. The Joint Information Operations Range and other cyber range assets with Red Teams portraying advanced cyber adversaries will support the majority of CCMD exercises for added threat realism and required security.			
Accomplishments/Planned Programs Subtotals	62.444	72.501	75.720

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.

Actual Performance and Goals:

Operational Test and Evaluation	FY 2012 (Actual)	FY 2013 (Goal)	FY 2014 (Goal)
On-Time Completion Rate	95%	96%	97%

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. DOT&E plans to maintain its on-time completion rates for FY 2013 and FY 2014 through continued management emphasis on timely delivery of required products to customer activities.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Operational Test and Evaluation, Defense **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 0460: <i>Operational Test and Evaluation, Defense</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605131OTE: <i>Live Fire Test and Evaluation (LFT&E)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	12.126	49.201	48.423	-	48.423	49.587	50.255	51.306	52.440	Continuing	Continuing
1: <i>LFT&E</i>	-	12.126	49.201	48.423	-	48.423	49.587	50.255	51.306	52.440	Continuing	Continuing

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

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

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

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

This Program Element also supports DoD's Joint Live Fire (JLF) Program and other LFT&E related initiatives. JLF was begun in 1984 under an Office of the Secretary of Defense (OSD) charter to test fielded front-line combat aircraft and armor systems for their vulnerabilities as well as fielded weapons, both U.S. and foreign, for their 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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Operational Test and Evaluation, Defense **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 0460: <i>Operational Test and Evaluation, Defense</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605131OTE: <i>Live Fire Test and Evaluation (LFT&E)</i>
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The Joint Logistics Commanders Joint Technical Coordinating Group for Munitions Effectiveness (JTTCG/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. JTTCG/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. JTTCG/ME also develops and standardizes methodologies for evaluation of munitions effectiveness and maintains databases for target vulnerability, munitions lethality, and weapon system accuracy. The JMEM requirements and development processes continues to be driven by operational lessons learned (Enduring Freedom, Iraqi Freedom, and Odyssey Dawn) and the needs of Combatant Commands, Services, Military Targeting Committee, and Operational Users Working Groups input for specific weapon-target pairings and methodologies.

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

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

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

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Operational Test and Evaluation, Defense **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 0460: <i>Operational Test and Evaluation, Defense</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605131OTE: <i>Live Fire Test and Evaluation (LFT&E)</i>	PROJECT 1: <i>LFT&E</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
1: <i>LFT&E</i>	-	12.126	49.201	48.423	-	48.423	49.587	50.255	51.306	52.440	Continuing	Continuing
Quantity of RDT&E Articles												

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

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

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

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

This Program Element also supports DoD's Joint Live Fire (JLF) Program and other LFT&E related initiatives. JLF was begun in 1984 under an Office of the Secretary of Defense (OSD) charter to test fielded front-line combat aircraft and armor systems for their vulnerabilities as well as fielded weapons, both U.S. and foreign, for their 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.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Operational Test and Evaluation, Defense **DATE:** April 2013

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The Joint Logistics Commanders Joint Technical Coordinating Group for Munitions Effectiveness (JTTCG/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. JTTCG/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. JTTCG/ME also develops and standardizes methodologies for evaluation of munitions effectiveness and maintains databases for target vulnerability, munitions lethality, and weapon system accuracy. The JMEM requirements and development processes continues to be driven by operational lessons learned (Enduring Freedom, Iraqi Freedom, and Odyssey Dawn) and the needs of Combatant Commands, Services, Military Targeting Committee, and Operational Users Working Groups input for specific weapon-target pairings and methodologies.

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

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

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2012	FY 2013	FY 2014
<p>Title: Live Fire Test and Evaluation</p> <p>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 (JTTCG/ME). Starting in FY 2013 the JASP and JTTCG/ME programs are realigned from the Operational Test Activities and Analyses program (0605814OTE) to the Live Fire Test and Evaluation program element (0605131OTE). The JASP and JTTCG/ME programs focus on the survivability of currently fielded systems; therefore, the two programs are more appropriately funded within the Live Fire Test and Evaluation program element.</p> <p>FY 2012 Accomplishments: Live Fire Test and Evaluation Major Test and Evaluation Programs</p> <p>The FY 2012 budget provided Live Fire Test and Evaluation input for Test and Evaluation Master Plans, Test Plans, System Acquisition Reports, Defense Acquisition Executive Summary reports, and Beyond Low Rate Initial Production (BLRIP) reports for those programs designated for oversight by DOT&E and OUSD(AT&L). The oversight list is developed and published annually.</p> <p>JLF Programs and LFT&E Initiatives</p> <p>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</p>	12.126	49.201	48.423

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2012	FY 2013	FY 2014
<p>tactics, or being operated in new combat environments, and the subsequent need for an assessment of their performance. Efforts were continued in support of Personnel Protection Equipment, including combat helmets and body armor. Urgent requests were addressed that directly support deployed operators and issues of importance to the Congress as they arise.</p> <p>JLF projects were performed to provide survivability data on currently fielded U.S. systems. JLF Air projects investigated an emerging threat first seen in a CH 47 combat incident, tested the vulnerability of sponsons to RPGs, and evaluated engine nacelle vulnerability reduction techniques, as well as evaluated technologies/techniques to reduce generic vulnerabilities to all aircraft, such as to MANPADS, small arms, and the performance of self-sealing fuel tanks using bio-fuels. Projects investigated the effect of yawed projectiles and missile debris on aircraft vulnerability, the vulnerability of turboprop engines, and performed a comparison of commonly used test threats. JLF Land projects investigated the vulnerability of vehicles to underbody blast and the lethality of U.S. weapons against typical in-theater targets, and improved modeling and simulation tools by providing validation data. JLF personnel studied the use and validity of manikins, helmets, and improvements to material characteristics used in modeling and simulation. JLF Sea projects developed key components of alternatives to traditional shock trials of ships and submarines, continued to investigate ship vulnerabilities in the areas of commercial standards, equipment and component damage, and investigated vulnerabilities of designs and components for new ships.</p> <p>Joint Aircraft Survivability Program (JASP) (Funded within PE 0605814OTE)</p> <p>In FY 2012 the JASP continued work on 33 multi-year RDT&E projects and initiated 26 new projects approved by the JASP Principal Members Steering Group and OSD/DOT&E. In the area of susceptibility reduction, the JASP addressed improving the effectiveness and reducing the space, weight and power required for directed energy infrared countermeasures, electronic countermeasures technology and techniques, integrated aircraft survivability equipment, and aircrew situational awareness. In the area of vulnerability reduction, the JASP continued to address requirements for lighter and more effective vulnerability reduction technology (e.g., armor, fuel containment, fire suppression, and aircrew and passenger protection). In aircraft survivability Modeling and Simulation (M&S), the JASP continued to improve survivability M&S credibility, address operator requirements for survivability data, integrate DIA threat missile models into threat engagement codes, improve the assessment of aircrew and passenger injuries, and address M&S requirements identified by the joint aircraft survivability community. The JASP completed 39 reports documenting efforts accomplished in FY 2012.</p> <p>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.</p>			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2012	FY 2013	FY 2014
<p>Joint Technical Coordinating Group for Munitions Effectiveness (JTTCG/ME)</p> <p>JTTCG/ME Joint Munitions Effectiveness Manual Weaponering System (JWS) v2.1 software and JTTCG/ME generated Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3160.01 Collateral Effects Radii (CER) tables were used for operational weaponering 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, weaponers, and planners, the JTTCG/ME developed various analytical and operational methodologies and target geometric models. Additionally JTTCG/ME's air-to-air and surface-to-air planning model, the Joint-Anti-air Combat Effectiveness System (J-ACE) v5.1 was released in July 2012 to provide aircraft survivability data.</p> <p>JWS v2.1 contains the Fast Integrated Structural Tool (FIST). FIST is the JMEM operational-level methodology that incorporates the integral modules from the Building Analysis Module (BAM) and Hardened Target Module (HTM) to create a merged tool that generates weapon effectiveness and damage assessments against infrastructure targets to include buildings, bunkers, and tunnels. In addition, JWS v2.1 contains approximately 180 new/updated targets, 15 new/updated munitions, new Explosive Equivalent Weights based on blast testing, and an improved 3-D viewer.</p> <p>J-ACE v5.1 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. Probability-of-kill estimates are also provided. Previous releases have provided pre-computed tables of probability of kill given an intercept for selected weapon-target pairings and engagement conditions. Because these tables proved tedious in their use, J-ACE v5.1 now provides the new "Endgame Manager" (EM) v2.2.0 software and data sets. EM allows "on-demand" calculation of multiple kill levels for specific engagement conditions encountered at intercept. To more effectively support operational mission planning, particularly at USSTRATCOM, the J-ACE v5.1 release also provides a direct interface to force level simulations. The fidelity is adequate for studying tactics, training evaluation, relative missile performance and scenario planning.</p> <p>In support of the Combatant Commands and the CJCSI 3160.01, JTTCG/ME provided updates for CER values for newly fielded systems. In addition, the JTTCG/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, JTTCG/ME trained nearly 250 users at 10 different Commands to support Collateral Damage Estimation decisions.</p> <p>The JTTCG/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</p>			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2012	FY 2013	FY 2014
<p>data development and providing operational tools for the IO elements of Computer Network Attack, Computer Network Defense, Military Information Support Operations (MISO) and Electronic Warfare. This weapon effectiveness and associated confidence level data are critical enablers for application of these weapons as it will provide senior leaders and warfighters with information to develop policy and concepts of operations for their use.</p> <p><i>FY 2013 Plans:</i> Live Fire Test and Evaluation Major Test and Evaluation Programs</p> <p>This is a continuing effort. The FY 2013 budget provides Live Fire Test and Evaluation input for Test and Evaluation Master Plans, Test Plans, System Acquisition Reports, Defense Acquisition Executive Summary reports, and BLRIP reports for those programs designated for oversight by DOT&E and OUSD(AT&L). The oversight list is developed and published annually.</p> <p>JLF Programs and LFT&E Initiatives</p> <p>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.</p> <p>Perform JLF projects to provide survivability data on currently fielded U.S. systems. JLF Air projects are continuing to evaluate generic technologies and techniques to decrease vulnerabilities to all aircraft, such as to MANPADS, small arms, and the performance of self sealing fuel tanks using bio-fuels. New projects are investigating the munitions and aircraft fire and explosion vulnerabilities. JLF Land projects continue to investigate the vulnerability of vehicles to underbody blast and the lethality of U.S. weapons against typical in-theater targets, as well as improving modeling and simulation tools by providing validation data. New projects are studying helmets and improvements to material characteristics used in modeling and simulation. JLF Sea projects continue to develop key components of alternatives to traditional shock trials of ships and submarines, to investigate ship vulnerabilities in the areas of commercial standards, equipment and component damage, as well as vulnerabilities of designs and components for new ships.</p> <p>Joint Aircraft Survivability Program (JASP)</p> <p>In FY 2013 the JASP will continue work on at least 34 multi-year RDT&E projects and initiate 20 new projects approved by the JASP Principal Members Steering Group and OSD/DOT&E. In the area of susceptibility reduction, the JASP will address</p>			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2012	FY 2013	FY 2014
<p>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.</p> <p>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.</p> <p>Joint Technical Coordinating Group for Munitions Effectiveness (JTTCG/ME)</p> <p>In support of operational commanders, DoD targeteers, weaponeers, and planners, the JTTCG/ME will release JMEM Weaponeering System (JWS) v2.1.1 and the Joint-Antiair Combat Effectiveness System (J-ACE) Air Superiority (AS) v5.2 in FY13.</p> <p>JWS v2.1.1 will add new weapons and their delivery accuracy data. Also included will be an updated direct fire cell by cell viewer and follow-on enhancements to the Fast Integrated Structural Tool (FIST). Additionally it will address upgrades to the Joint Smart Weapons Model (JSWM). JSWM is an effectiveness simulation intended for the analysis of smart submunition weapons. JSWM is a many submunitions-on-many targets model used to evaluate smart submunitions to determine effectiveness based on the results of simple algorithms and inputs. Finally, based upon inputs from the Defense Intelligence Agency and their Intelligence Centers, classification markings on various targets will be updated.</p> <p>J-ACE v5.2 will provide extended and updated data sets for missile and aircraft target aero-performance, antiair missile lethality and air target vulnerability. In particular, initial data sets in support of the F-35 Lightning Joint Strike Fighter Joint Operational Test Team will be included. J-ACE v5.2 will also field the initial methodology and data for evaluation selected US countermeasure system performance against Radio Frequency guided threat surface-to-air missile. This is the first of what is expected to be several years of increasing J-ACE capability to quantitatively evaluate countermeasure system performance in support of operational analysis of air combat effectiveness.</p>			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2012	FY 2013	FY 2014
<p>In support of Combatant Commands and the CJCSI 3160.01, JTCG/ME will continue to provide updates for CER values for newly fielded systems. JTCG/ME will also continue to monitor the DCiDE tool configuration management process to ensure that subsequent versions of DCiDE accurately reflect the latest JTCG/ME accredited tables; Combatant Command specified population density factors and associated user input. The DCiDE tool will evolve to be the foundation for collateral damage estimation on JWS.</p> <p>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.</p> <p>FY 2014 Plans: Live Fire Test and Evaluation Major Test and Evaluation Programs</p> <p>This is a continuing effort. The FY 2014 budget provides Live Fire Test and Evaluation input for Test and Evaluation Master Plans, Test Plans, System Acquisition Reports, Defense Acquisition Executive Summary reports, and BLRIP reports for those programs designated for oversight by DOT&E and OUSD(AT&L). The oversight list is developed and published annually.</p> <p>JLF Programs</p> <p>Conduct tests of fielded systems not previously tested under Air, Land, or Sea Joint Live Fire programs to support DOT&E and warfighter needs. The need for these tests result from systems being exposed to new threats, used in new unanticipated tactics, or being operated in new combat environments, and the subsequent need for an assessment of their performance. Projects will address urgent requests that directly support deployed warfighters and issues of importance to the Congress.</p> <p>Joint Aircraft Survivability Program (JASP)</p> <p>In FY 2014 the JASP will continue work on at least 33 multi-year RDT&E projects and initiate new projects approved by the JASP Principal Members Steering Group and OSD/DOT&E. In the area of susceptibility reduction, the JASP will address improving the effectiveness and reducing the space, weight and power required for directed energy infrared countermeasures, electronic countermeasures technology and techniques, aircrew situational awareness and urgent operator needs. In the area of vulnerability reduction, the JASP will continue to address requirements for lighter and more effective vulnerability reduction technology (e.g., armor, fuel containment, fire suppression, and aircrew and passenger protection). In aircraft survivability M&S,</p>			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2012	FY 2013	FY 2014
<p>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.</p> <p>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.</p> <p>Joint Technical Coordinating Group for Munitions Effectiveness (JTTCG/ME)</p> <p>In support of operational commanders, DoD targeteers, weaponeers, and planners, the JTTCG/ME will develop and release JMEM Weaponeering System (JWS) v2.2 and Joint-Antiair Combat Effectiveness System (J-ACE) Air Superiority (AS) v5.3 during FY14.</p> <p>JWS v2.2 efforts will include connectivity (Mission Planning & Collateral Damage) and personnel vulnerability data updates. Additional updates will include an export to Microsoft software capabilities. Improvements on the JWS Parameterization Routine in JWS will be provided along with enhanced bomb-burial methodology and small precision methodology. Lastly McCabe module analysis will be used to enable development of code that is easy to maintain and further develop as well as ensuring full coverage in unit testing.</p> <p>J-ACE v5.3 will continue to field and add Browse descriptive material to support new weapons in the Joint Anti-air Model (JAAM); expand Suite of Anti-air Kill-chain Models and Data (SAK-MD) capability; and update existing weapons and aircraft missile and aircraft target aero-performance, antiair missile lethality and air target vulnerability required by the operational community in JAAM. Additionally, data sets in support of the F-35 Lightning Joint Strike Fighter Joint Operational Test Team will be included, extended data for evaluation of US countermeasure system performance against Radio Frequency guided threat surface to air missile, and initial capability for evaluation of US countermeasure system performance against threat infrared guided SAM and AAM.</p> <p>JTTCG/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 JTTCG/ME estimation process for small precision weapons. Furthermore, JTTCG/ME will expand the use of computational physics to improve test design and data analysis to support both analytical model</p>			

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

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

(U) PERFORMANCE METRICS:

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

Actual Performance and Goals:

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

The on-time completion rate was computed on the basis of the number of beyond low-rate initial production live fire test and evaluation reports, Joint Live Fire Quick Look Reports, and Joint Live Fire Test reports that were submitted within established time standards relative to the total number of such products that fell due during the fiscal year. DOT&E plans to achieve its goals for FY 2013 and FY 2014 through continued management emphasis on timely delivery of required reports to customer activities.

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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	113.467	63.566	62.157	-	62.157	63.545	63.892	63.412	56.561	Continuing	Continuing
0605814OTE: OTA&A	-	113.467	63.566	62.157	-	62.157	63.545	63.892	63.412	56.561	Continuing	Continuing

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

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Starting in FY 2013 the Joint Technical Coordinating Group for Munitions Effectiveness (JTCEG/ME) and the Joint Aircraft Survivability Program (JASP) initiatives are realigned from the Operational Test Activities and Analyses program element (0605814OTE) to the Live Fire Test and Evaluation program element (0605131OTE). Since the JTCEG/ME and JASP programs focus on the survivability of currently fielded systems the two programs are more appropriately funded within the Live Fire Test and Evaluation program element.

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 test capabilities and methodologies.

Threat Systems, based on a memorandum of agreement between the Director, Operational Test and Evaluation (DOT&E) and the Defense Intelligence Agency, provides DOT&E support in the areas of threat resource analysis, intelligence support and threat systems investments. Threat Systems provides threat resource analyses on the availability, capabilities and limitations of threat representations (threat simulators, targets, models, U.S. surrogates and foreign materiel) and analysis of test resources used for operational testing to support DOT&E's assessment of the adequacy of testing for those programs designated for oversight by DOT&E and the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics (OUSD(AT&L)). Threat Systems provides DOT&E assessment officers 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) Test and Evaluation Center, serves as DoD's independent evaluator for electro-optical systems with emphasis on rotary wing survivability, precision guided weapons (PGWs), CMs/ counter-countermeasures (CCMs) employment, and warning devices. The Center conducts tests,

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analyzes test results and provides CM expertise that benefits the Services, Joint activities, T&E Agencies, DoD Acquisition Community, the Intelligence Community, Homeland Defense and Overseas Contingency Operations (OCO). Data collected during Center test activities provides valuable information to OSD assessment officers for select oversight programs. The Center assesses current and developing systems, using carefully developed test and evaluation methodologies to provide the basis for understanding how CMs might affect systems used in current and future battlefields. Additionally, the Center develops CM specific test equipment that can be used for both Title 10 programs and OCO urgent operational needs.

This Program Element is budgeted in Budget Activity 6, RDT&E Management Support, to support management activities for the DOTE oversight responsibilities of test and evaluation functions.

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	115.467	63.566	63.382	-	63.382
Current President's Budget	113.467	63.566	62.157	-	62.157
Total Adjustments	-2.000	0.000	-1.225	-	-1.225
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-2.000	-			
• SBIR/STTR Transfer	-	-			
• Program Realignment/Adjustments	-	-	-1.225	-	-1.225

Change Summary Explanation

Program Realignment made in support of an administrative contract.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Operational Test and Evaluation, Defense **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 0460: <i>Operational Test and Evaluation, Defense</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605814OTE: <i>Operational Test Activities and Analyses</i>	PROJECT 0605814OTE: <i>OTA&A</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0605814OTE: OTA&A	-	113.467	63.566	62.157	-	62.157	63.545	63.892	63.412	56.561	Continuing	Continuing
Quantity of RDT&E Articles												

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

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

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). Starting in FY 2013 the JT&E/ME and JASP programs are realigned from the Operational Test Activities and Analyses program element (0605814OTE) to the Live Fire Test and Evaluation program element (0605131OTE). Since the JT&E/ME and JASP programs focus on the survivability of currently fielded systems the two programs are more appropriately funded within the Live Fire Test and Evaluation program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2012	FY 2013	FY 2014
Title: Operational Test Activities and Analyses	113.467	63.566	62.157
FY 2012 Accomplishments: Joint Test and Evaluation (JT&E)			
In FY 2012 the JT&E Program leadership began re-engineering the program's business processes after notification of a 43 percent budget reduction starting in FY 2013. The JT&E staff and the program's stakeholders developed a concept of operations (CONOPS), which provides the details of the new business model, based on the revised budget. This CONOPS was briefed to DOT&E leadership and reviewed by Senior Advisory Council (SAC), Executive Steering Group (ESG), and the Technical Advisory Board (TAB), the program's governing bodies, for concurrence.			
The program had two joint tests close and four joint tests continue past the fiscal year. The Joint Integration of Maritime Domain Awareness for Homeland Defense Joint Test, which developed joint tactics, techniques, and procedures to synchronize information concerning the maritime domain for key decision makers across operations centers for homeland defense, closed in October 2012. The Joint Jamming Assessment and Mitigation Joint Test also closed in October 2012 after developing joint tactics, techniques, and procedures to sustain operations in the presence of purposeful interference of satellite communications.			
Threat Systems			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2012	FY 2013	FY 2014
<p>As part of the Secretary of Defense FY 2012 efficiency initiatives, Threat Systems eliminated the Target Management Initiative (TMI) and reduced funding for investments in advanced threat surrogate developments. TMI elimination will make the Services solely responsible for the development and acquisition of new threat representative targets and target control systems. Reducing threat surrogate investments will slow but not eliminate development of advanced threat surrogates used in operational test and evaluation.</p> <p>Threat Systems completed the four-year project to integrate current intelligence community-based missile models into all DoD Hardware-In-The-Loop countermeasure test facilities, continued test planning working group participation to identify threat shortfalls; conducted special studies and provided current intelligence support tailored to specific U.S. weapon systems acquisition; developed an unmanned aerial vehicle Global Positioning Satellite jamming capability using micro jammers to increase threat realism at test ranges, and used existing live fire data to verify and compare MANPAD laboratory and hardware-in-the-loop facility testing capabilities to increase confidence in using other than open air live fire events for operational testing. Initiatives for FY 2012 included development of a modeling and simulation (M&S) roadmap to identify projects that support effective testing of US and Allied countermeasure systems; integration of authoritative, DIA-approved models into simulations used for testing advanced systems in an integrated air defense network; data collection to support the development of a hostile fire signature model for use in testing new hostile fire indicator technologies being developed by the Army and Navy; investigations into digital radio frequency memory use against threat air defense systems; assessments of next generation GPS jammers and their potential impact of US weapon systems; and translation of all source technical intelligence on a battle management and command, control, communications and computer system into a model to support test and evaluation.</p> <p>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.</p> <p>The Center</p> <p>The Center tested, analyzed, and reported on more than 40 systems, with special emphasis on rotary wing survivability, CMs/ counter-countermeasures (CCMs) employment, warning and targeting systems and PGWs. Each program supported received an independent assessment of our data/findings and test support for CM/CCM evaluations. Approximately 52% 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 17% of the Center's efforts were spent on PGW, foreign system, and other types of field testing not related to ASE. Approximately 6% of the Center's efforts were dedicated to OCO support with emphasis on CM-based, pre-deployment training for rotary wing units. Twenty-three 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, much of which was accomplished in concert with the Central Test and Evaluation Investment Program (CTEIP). Programs include the CTEIP-sponsored, Joint IRCM Threat System (JMITS),</p>			

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B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2012	FY 2013	FY 2014
<p>Towed Aerial Plume Simulator (TAPS) and Multi-Spectral Sea and Land Target Simulator (MSALTS). In addition to the Center's internal improvements and modernization efforts, additional funding to support unfunded requirements for MSALTS was received and forwarded to meet program needs. These systems, as well as a new remote launch system (RLS) and the Hostile Fire Signature (HSIG) Models, will be used in support of testing for both Title 10 programs and OCO ASE urgent operational needs. Our support was distributed across all the Services as well as intelligence agencies and research and development activities.</p> <p>About 2% of the Center's efforts consisted of providing subject matter expertise and other support not 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 Project Mallari Working Group, Joint Countermeasures T&E Working Group (JCMT&E WG), and JCMT&E WG Hostile Fire Indicator (HFI) subgroup lead.</p> <p>FY 2013 Plans: Joint Test and Evaluation (JT&E)</p> <p>In FY 2013 the program will implement the CONOPS developed the previous year. The most significant changes in the new model are shorter timelines for project development and execution, as well as the designation of permanent Joint Test Units to house test teams. These two changes will allow test teams to share resources, as well as start and execute projects quickly. Additionally, the life cycles of the program's quick reaction tests and joint tests will be aligned so that the program's governing bodies will meet concurrently to maximize customer availability and minimize travel cost.</p> <p>The program expects to have two joint tests close and four joint tests continue through the fiscal year. One of the two tests to close is the Joint Cyber Operations Joint Test that is developing tactics, techniques, and procedures to enable the use of an adaptive cyber defense strategy for critical C2 services against cyber threats across the DoD Global Information Grid. The other test is Joint UAS Digital Information Exchange Joint Test that is developing joint tactics, techniques, and procedures to standardize the information exchange methods and dissemination paths to integrate UAS-derived information across the Services to support both deliberate and dynamic targeting requirements.</p> <p>The program will conduct two feasibility studies and establish one new joint test during FY 2013.</p> <p>Threat Systems</p>			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2012	FY 2013	FY 2014
<p>Threat Systems will continue test planning working group participation to identify threat shortfalls; conduct special studies and provide current intelligence support tailored to specific U.S. weapon systems acquisitions; continue the development of Global Positioning Satellite jamming capabilities to increase threat realism at our test ranges, and continue the development of an ammunition and rocket propelled grenade signature model for use in hostile fire indicator systems. We will propose candidate threat systems from the various intelligence agencies and develop models for use in test and evaluation. We will investigate the integration of digital radio frequency memory (DRFM) technology to develop modern threat jammers.</p> <p>New initiatives for FY 2013 include implementation of M&S roadmap projects to ensure threats to US and Allied infrared countermeasure systems are available for testing by initiating a performance model sustainment capability, investigating ballistic missile related threats, development of next generation threat GPS jammers and their potential impact on US weapon systems, providing representative cyber warfare threats for testing, and identify and provide alternative test resources that represent land and sea threats. In addition, we will concentrate on improving our understanding of WESTPAC threats by initiating a series of technical analyses to determine those characteristics we need to provide to the test community to emulate the threats and their densities in potential engagements.</p> <p>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.</p> <p>The Center</p> <p>The Center will test, analyze, and report on more than 30 systems with emphasis on rotary wing survivability, CMs/CCMs 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. We will continue to emphasize support of the DOT&E enterprise, with a clear focus on Title 10 weapons systems, aircraft survivability and hostile fire initiatives. Additionally, a large percentage of ongoing efforts will focus on aircraft survivability testing in support of current OCO. 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 and procedures (TTP) development. The Center will continue to develop the CTEIP-sponsored, MSALTS, which will be used in support of testing for both Title 10 programs and OCO ASE urgent operational needs. The Center will continue working with the Threat Simulator Working Group (TSWG) sponsored HSI model. Our support will be distributed across all the Services as well as intelligence agencies and research and development activities.</p> <p>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,</p>			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2012	FY 2013	FY 2014
<p>Foreign Material Exploitation Working Group, Foreign Material Program T&E Subcommittee, Joint Project Mallari Working Group, JCMT&E WG, and JCMT&E WG HFI subgroup lead.</p> <p><i>FY 2014 Plans:</i> Joint Test and Evaluation (JT&E)</p> <p>By FY 2014 the program will be on the nomination-selection-execution cycle developed in FY 2012, but will continually adjust the business model to improve the program.</p> <p>In FY 2014 JT&E has two projects slated for closing and an estimated two projects ongoing from FY 2013. The Joint Advanced Capability Employment Joint Test, anticipated to close in August 2014, is developing tactics, techniques, and procedures to enable the joint task force commander to employ advanced capabilities to overcome complex targeting challenges. The Joint Deployable Integrated Air and Missile Defense Joint Test, scheduled to close in June 2014, is developing, test, and evaluate tactics, techniques, and procedures to enable the joint task force commander to employ integrated deployable air, cruise missile, and theater ballistic missile defense capabilities.</p> <p>Four new feasibility studies will be conducted in FY 2014, two of which will be selected to conduct joint tests.</p> <p>Threat Systems</p> <p>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; continue the development of Global Positioning Satellite jamming capabilities to increase threat realism at our test ranges, and complete the development of an ammunition and rocket propelled grenade signature model for use in hostile fire indicator systems. We will propose candidate threat systems from the various intelligence agencies and develop models for use in test and evaluation. We will continue efforts to maintain a standard set of threat performance models for use in test and evaluation facilities and complete the initial hostile fire indicator model for small arms and RPGs and continue investigating ballistic missile related threats.</p> <p>New initiatives for FY 2014 include investigations into advanced threat capabilities including multi-spectral threats and missile imaging seekers; adding threat signature sustainment for missiles, small arms and rockets to augment performance models for use in infrared countermeasures testing; determine how best to incorporate threats into unmanned aerial vehicles to service testing including use in GPS-deprived environments; continue investigation into producing representative threats for cyber testing; and consider addition of more small arms threats to the hostile fire indicator model.</p>			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2012	FY 2013	FY 2014
<p>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.</p> <p>The Center</p> <p>The Center will test, analyze, and report on more than 30 electro-optical systems with special emphasis on rotary wing survivability, CMs/CCMs 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. We will continue to emphasize support of the DOT&E enterprise, with a clear focus on Title 10 weapons systems, aircraft survivability and hostile fire initiatives. Additionally, a large percentage of ongoing efforts will focus on aircraft survivability testing in support of current OCO. 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 to develop the CTEIP-sponsored MSALTS, which will be used in support of testing for both Title 10 programs and OCO ASE urgent operational needs. The Center will continue to work with the TSWG-sponsored HSI model. Our support will be distributed across all the Services as well as intelligence agencies and research and development activities.</p> <p>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, Joint Project Mallari Working Group, JCMT&E WG, and JCMT&E WG HFI subprogram lead.</p>			
Accomplishments/Planned Programs Subtotals	113.467	63.566	62.157

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

N/A

Remarks

D. Acquisition Strategy

Not Applicable

E. Performance Metrics

(U) PERFORMANCE METRICS:

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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.

Actual Performance and Goals:

Operational Test Activities and Analyses	FY 2012 (Actual)	FY 2013 (Goal)	FY 2014 (Goal)
On-Time Completion Rate	94%	95%	96%

The on-time completion rate was computed on the basis of the number of required products that were submitted within established time standards relative to the total number of such products that fell due during the fiscal year. DOT&E plans to maintain its on-time completion rates for FY 2013 and FY 2014 through increased management emphasis on timely delivery of required products to customer activities.

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