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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				PE 0207701F: Full Combat Mission Training							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	55.539	29.826	14.861	-	14.861	15.183	7.303	11.612	11.815	Continuing	Continuing
655012: Full Combat Mission Training	22.344	16.122	5.804	-	5.804	2.578	2.661	2.758	2.889	Continuing	Continuing
655354: F-16 Block 40/50 MTC	33.195	13.704	9.057	-	9.057	12.605	4.642	8.854	8.926	Continuing	Continuing

A. Mission Description and Budget Item Justification

Full Combat Mission Training (FCMT) supports Air Force Distributed Mission Operations (DMO) and Live-Virtual-Constructive (LVC) integration. DMO is an operational readiness initiative enabling the USAF to exercise and train at the operational and strategic levels of war while facilitating unit-level training. Networked LVC components form the integrated DMO battlespace by linking geographically distributed high fidelity combat and combat support training devices, including Command and Control (C2) and Intelligence, Surveillance, and Reconnaissance (ISR) systems. RDT&E for Project 5012, FCMT, efforts are focused on development, demonstration, and transitioning of critical functions associated with the DMO/LVC network and linked simulators. Project 5354, F-16 Block 40/50 Mission Training Centers (MTC), efforts are focused on development and demonstration of the F-16 Block 40/50 MTC.

This program is funded in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting Engineering and Manufacturing Development tasks aimed at meeting validated requirements prior to full-rate production.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	57.393	39.826	24.442	-	24.442
Current President's Budget	55.539	29.826	14.861	-	14.861
Total Adjustments	-1.854	-10.000	-9.581	-	-9.581
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-10.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.561	-			
• Other Adjustments	-0.293	-	-9.581	-	-9.581

Change Summary Explanation

FY11: Cong General Reductions -\$0.293 are reflected in Other Adjustment Row.

FY12: Congressional Directed reduction of \$10M

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FY13: Program is reduced due to higher DoD priorities		

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0207701F: Full Combat Mission Training				PROJECT 655012: Full Combat Mission Training			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
655012: Full Combat Mission Training	22.344	16.122	5.804	-	5.804	2.578	2.661	2.758	2.889	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

The program has been funded to latest cost estimate.

A. Mission Description and Budget Item Justification

Full Combat Mission Training (FCMT) supports Air Force Distributed Mission Operations (DMO) and Live-Virtual-Constructive (LVC) integration. DMO is an operational readiness initiative enabling the USAF to exercise and train at the operational and strategic levels of war while facilitating unit-level training. FY13 FCMT funding provides research in areas benefiting the AF DMO/LVC environment as a whole. Provides research and development to facilitate integration of fielded and newly acquired, Air Force owned training devices into DMO/LVC networks. Enhances the quality of training for the systems added to the network. Enables aircrews to network with LVC components to form the integrated DMO battlespace. Links geographically distributed, high-fidelity combat and combat support training devices including Command and Control (C2) and Intelligence, Surveillance, and Reconnaissance (ISR) systems. Develops, demonstrates and inserts multi-level security capability. This capability allows the warfighters at home station to exercise and train at the operational and strategic levels of war as well as conduct networked unit-level training.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Cross Domain Solutions (CDS)	4.426	4.631	2.590	-	2.590
Description: Development, demonstration and insertion of multi-level security capability.					
FY 2011 Accomplishments: Continue CDS for F-15E and B-2					
FY 2012 Plans: Cross Domain Solution as required for operational systems on the DMO Network including B-2 and F-35. Development, demonstration and insertion of multi-level security solutions.					
FY 2013 Base Plans: Develop Core Mission Enclave (CME) multilevel security approach to include, but not limited to, F-35 and B-2.					
FY 2013 OCO Plans:					

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APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0207701F: Full Combat Mission Training	PROJECT 655012: Full Combat Mission Training				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
N/A						
<p>Title: Develop DMO Capabilities</p> <p>Description: Continue development, demonstration, studies and insertion of DMO/LVC related technologies and proficiency based continuation training strategies.</p> <p>FY 2011 Accomplishments: Continue network re-architecture initiative</p> <p>FY 2012 Plans: Enhance visual fidelity of F-22 simulators to support DMO capability. Develop network architecture initiatives for technology refresh and cost reductions; side by side feasibility testing of DMO and Global Information Grid (GIG) network.</p> <p>FY 2013 Base Plans: Enhance visual fidelity of F-22 and B-2 simulators to support DMO capability. Develop network architecture initiatives for technology refresh and cost reductions; side by side feasibility testing of DMO and Global Information Grid (GIG) network.</p> <p>FY 2013 OCO Plans: N/A</p>		11.691	8.343	3.040	-	3.040
<p>Title: Validation of warfighter seasoning</p> <p>Description: Studies to assess and validate warfighter seasoning required in continuation training and accreditation of portions of this process.</p> <p>FY 2011 Accomplishments: Complete F-15E and F-16 multirole process and results. Complete Joint Tactical Air Controller (JTAC) Close Air Support (CAS) Minimum Essential Competencies (MEC) refresher; Refine development of MEC process for schoolhouse tactical training using A-10 and F-22 mission areas and schoolhouses as initial domains; Refine development of methods to link schoolhouse initial competency sets and MEC ops definitions and data; Validate close air support distributed mission training using competency-based methods in live and virtual environments.</p> <p>FY 2012 Plans: Evaluate training impact of Live, Virtual, and Constructive (LVC) integration with 4th generation systems; Complete evaluation of different mixes of live and virtual training in support of initial and refresher mission</p>		2.546	1.022	-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
proficiency; Validate methodology for quantifying knowledge and skill proficiency for air to air and air to ground mission areas; Develop methods to integrate competency-based data into existing USAF sortie and experience tracking systems; Demonstrate proficiency tracking tools in two identified mission areas; Demonstrate integration of schoolhouse initial competency set data with recurring MEC requirements data for comprehensive LVC training development and management. FY 2013 Base Plans: N/A FY 2013 OCO Plans: N/A						
Title: Develop objective performance enhancement Description: Studies to develop objective performance enhancement and measurement tools, for use in the DMO/LVC environment. FY 2011 Accomplishments: Validate air-to-air and air-to-ground performance measures and visualization tools; Complete field evaluations of persistent readiness assessment in F-15C, F-16, and F-22 live and virtual contexts; Demonstrate integrated Close Air Support common metrics for ground controllers and air platforms; Validate metrics and visualization tools for remotely piloted aircraft readiness assessment; Complete validation of authoring tools to rapidly develop metrics for ops unit assessments and certification. FY 2012 Plans: Complete integrated data summaries of LVC performance measures for 4th gen systems; Design and validate performance based tools for mission planning and after action review; Develop common metrics and data specifications to permit measures collected in live and virtual contexts to be shared, integrated, and displayed in a common debriefing technology; Demonstrate LVC performance measurement across mission areas and platforms; Demonstrate integration of Remotely Piloted Aircraft (RPA), Air to Air (A/A), and Air to Ground (A/G) measures and metrics for at least two common LVC scenarios. FY 2013 Base Plans: N/A FY 2013 OCO Plans:		1.022	1.022	-	-	-

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APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0207701F: Full Combat Mission Training		PROJECT 655012: Full Combat Mission Training		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
N/A						
<p>Title: Identify training and rehearsal gaps</p> <p>Description: Studies to identify training and rehearsal gaps in DMO/LVC architecture based on current weapons system and operational Tactics, Training, Procedures (TTPs).</p> <p>FY 2011 Accomplishments: Complete initial USAF and Australian (RAAF) coalition mission training evaluation; Conduct field evaluation of integrated performance measurement and sortie tracking methods for ops readiness certification; Conduct additional studies of alternate mixes of live and virtual training with F-15E and F-16 ops squadrons; Complete second skill decay study evaluating impacts of different mixes of live and virtual training on combat skill retention and decay; Complete initial evaluation of Nellis LVC operational assessment. Integrate data into next spiral of Nellis LVC operational assessment; Demonstrate common aircraft, range, and virtual environment performance measurement and tracking in Nellis LVC ops assessment.</p> <p>FY 2012 Plans: Refine LVC architecture and instrumentation to permit training effectiveness evaluations of 4th and 5th gen systems interoperating in LVC; Complete initial training effectiveness evaluation of Remotely Piloted Aircraft (RPA) competency-based training with Combat Air Force units; Complete training effectiveness evaluations of JTAC training and rehearsal integrated with Air Support Operations and with RPA virtual and constructive environments; Complete field evaluation of deployable tactical trainers as part of United States Air Forces Europe (USAFE) LVC Construct; Complete assessment of the integration of JTAC training within the context of coalition mission training research and ops support with the British Royal Air force (RAF).</p> <p>FY 2013 Base Plans: N/A</p> <p>FY 2013 OCO Plans: N/A</p>		1.022	1.022	-	-	-
<p>Title: Other Network Studies</p> <p>Description: Research and development to provide for the integration of fielded and newly introduced, Air Force high-fidelity flight and mission trainers.</p> <p>FY 2011 Accomplishments:</p>		-	-	-	-	-

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APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0207701F: Full Combat Mission Training				PROJECT 655012: Full Combat Mission Training				
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Continue study and demonstration of the DMO network conversion to the GIG FY 2012 Plans: N/A FY 2013 Base Plans: N/A FY 2013 OCO Plans: N/A												
Title: Program Office Support Description: Program Office Support FY 2011 Accomplishments: Program Office Support FY 2012 Plans: Program Office Support. FY 2013 Base Plans: Program Office Support. FY 2013 OCO Plans: N/A								1.637	0.082	0.174	-	0.174
Accomplishments/Planned Programs Subtotals								22.344	16.122	5.804	-	5.804
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost	
• PE 0207701F, Full Combat Mission...: Full Combat Mission Training,	172.735	184.289	215.773	0.000	215.773	267.903	273.661	261.828	265.987	Continuing	Continuing	

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D. Acquisition Strategy Each platform joining the Distributed Mission Operations (DMO)/Live-Virtual-Constructive (LVC) environment selects its own acquisition strategy based on using Command needs, Business Case Analysis (BCA) and the magnitude of the training system changes required to provide DMO capability. The initial systems in the DMO/LVC environment; F-15C, AWACS, F-16 Block 40/50 and F-15E, all required new training systems. In addition, the Operations and Integration capability had to be created. The Training Simulation Service (TSS) acquisition strategy was used to meet a portion of these requirements. In the TSS approach, the contractor owns and provides the simulator equipment, maintains simulator concurrency with weapon systems, and has incentives to keep the equipment up to date with simulator and network technologies. The FY07 National Defense Authorization Act (NDAA) specifically limited the Air Force's ability to acquire military flight simulators with service contracts. As a result, training capability currently provided on the F-16 Mission Training Center (MTC) is being replaced under a separate program with training provided with procured flight simulators. (Acquisition of the F-16 Block 40/50 MTCs is detailed under the Project 655354 in this document.) The FY08 NDAA language allows continued use of the service contract approach on systems where it was already in use. Currently fielded and projected Air Force-owned Flight and Mission Training Systems without DMO/LVC capability will be modified using Full Combat Mission Training (FCMT) funds to ensure compatibility with the DMO-LVC environment. Additional DMO capable trainers will be acquired for those systems where current quantities are inadequate to meet training requirements using FCMT funds.		
E. Performance Metrics Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.		

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0207701F: Full Combat Mission Training	PROJECT 655012: Full Combat Mission Training

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0207701F: Full Combat Mission Training	PROJECT 655012: Full Combat Mission Training

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0207701F: <i>Full Combat Mission Training</i>	PROJECT 655012: <i>Full Combat Mission Training</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
F-22 DMO Development Complete	4	2011	1	2014
F-22 Install: Tyndall	3	2011	3	2011
F-22 Install Elmendorf	2	2012	2	2012
F-22 Visual Upgrade complete	1	2013	1	2013
F-22 Install Hickam	4	2014	1	2015
B-1 Mod kits installed	2	2011	4	2011
B-2 Mod kits installed	1	2012	1	2012
B-2 Operations	4	2013	1	2017
F-15C MTC Recompete Contract Award (O&M)	3	2012	4	2012
B-52 Mod kits installed	1	2011	4	2013
F-15E MTC Recompete Contract Award (O&M)	3	2013	3	2013
AWACS MTC Recompete Contract Award (O&M)	4	2013	4	2013
Operations & Integration Recompete Contract Award (RDT&E &O&M)	4	2013	4	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force								DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0207701F: Full Combat Mission Training				PROJECT 655354: F-16 Block 40/50 MTC			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
655354: F-16 Block 40/50 MTC	33.195	13.704	9.057	-	9.057	12.605	4.642	8.854	8.926	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
F-16 Block 40/50 Mission Training Center (MTC) supports the development, acquisition, fielding and sustainment of high fidelity, Distributed Mission Operations (DMO) capable flight simulators for F-16 Block 40 and 50 weapon systems. Each MTC includes multiple high fidelity Simulator Cockpits, Instructor Operator Stations, a Threat Server and Brief/Debrief and Mission Observation capability. Each is capable of linking to geographically distributed high-fidelity combat and combat support training devices including Command and Control (C2) and Intelligence, Surveillance, and Reconnaissance (ISR) systems. This capability allows the warfighters at home station to exercise and train at the operational and strategic levels of war as well as conduct networked unit-level training.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: F-16 MTC R&D							32.695	13.463	8.930	-	8.930
Description: Research and development of DMO capable flight simulators to replace training capability which has been provided by training simulation service contracts. Research, development and testing of modifications to the F-16 MTC to maintain concurrency with F-16 aircraft											
FY 2011 Accomplishments: Continue F-16 MTC development, test and fielding											
FY 2012 Plans: Continue F-16 MTC development, test and fielding											
FY 2013 Base Plans: Continue F-16 MTC development, test and fielding											
FY 2013 OCO Plans: NA.											
Title: Program Office Support							0.500	0.241	0.127	-	0.127
Description: Program Office Support											
FY 2011 Accomplishments:											

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B. Accomplishments/Planned Programs (\$ in Millions)				FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total			
Program Office Support FY 2012 Plans: Program Office Support FY 2013 Base Plans: Program Office Support. FY 2013 OCO Plans: NA.											
Accomplishments/Planned Programs Subtotals				33.195	13.704	9.057	-	9.057			
C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• P-77: BA 5, Other Aircraft, Mod #8669 Full Combat Mission Training	0.432	1.098	1.566	0.000	1.566	1.566	1.818	1.921	1.953	Continuing	Continuing
• P-82: BA 6, Initial Spares/Repair Parts	5.220	3.238	1.400	0.000	1.400	0.271	0.252	0.209	0.213	Continuing	Continuing
• P-97: BA 7, Other Aircraft	53.655	23.255	9.522	0.000	9.522	0.000	0.027	0.000	0.000	Continuing	Continuing
D. Acquisition Strategy											
F-16 Block 40/50 MTCs are being developed and fielded under a competitively awarded Federal Acquisition Regulations (FAR) Part 15 Supply contract with RDT&E and APAF funds. The MTCs will be sustained by a Contract Logistic Support (CLS) using Operations and Maintenance funds.											
E. Performance Metrics											
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.											

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0207701F: <i>Full Combat Mission Training</i>	PROJECT 655354: <i>F-16 Block 40/50 MTC</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Design/Develop/Test F-16 MTC, including concurrency mods	1	2011	4	2017
MTC Nellis AFB NV Fielded	2	2012	2	2012
MTC Hill AFB UT Fielded	3	2012	3	2012
MTC Holloman AFB NM Fielded	1	2013	1	2013
MTC Shaw AFB SC Fielded	1	2013	1	2013
MTC Misawa AB JP Fielded	1	2014	1	2014
MTC Kunsan AB ROK Fielded	2	2013	3	2013
MTC Spangdahlem AB GE Fielded	4	2014	4	2014
MTC Aviano AB IT Fielded	2	2015	2	2015