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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 6: RDT&E Management Support				R-1 ITEM NOMENCLATURE PE 0604256F: Threat Simulator Development							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	33.951	23.331	21.245	0.000	21.245	22.495	23.337	23.546	22.699	Continuing	Continuing
662907: Electronic Combat Intel Support	2.159	2.206	2.215	0.000	2.215	2.250	2.284	2.319	2.354	Continuing	Continuing
663321: Electronic Warfare Ground Test Resources	24.119	13.508	11.441	0.000	11.441	12.544	13.761	14.318	13.958	Continuing	Continuing
667500: Foreign Materiel Acquisition/Analysis	7.673	7.617	7.589	0.000	7.589	7.701	7.292	6.909	6.387	Continuing	Continuing
A. Mission Description and Budget Item Justification											
<p>This PE provides funding for the elements necessary to support the Air Force Electronic Warfare (EW) Test Process, including Directed Energy (DE). This test process provides a scientific methodology to ensure the effective disciplined and efficient testing of EW and avionics systems. Each capability or facility improvement is pursued in concert with the others to avoid duplicate capabilities while at the same time producing the proper mix of test resources needed to support the AF EW Test Process and testing of EW systems which can be used in any action involving the use of electromagnetic and DE to control the electromagnetic spectrum or to attack the enemy. This PE provides funding for the management and technical oversight of implementation activities, development and improvement of digital EW models, measurement facilities improvements, hardware-in-the-loop test facilities improvements, and installed system test facility improvements. This PE also provides funding for planning, budgetary management, and technical support of the Air Force for corporate-level implementation of the EW Test Process, improvement and modernization (I&M) activities and application of the test and evaluation (T&E) infrastructure. Support includes requirements definition and analysis, project planning, programming and budgeting, technical oversight, and application of T&E facility I&M. Products include studies, analyses, and related documentation. Additionally, this PE provides funding to support the acquisition and analysis efforts of the Foreign Materiel Program and EW intelligence efforts.</p>											
<p>This PE is in Budget Activity 6, Management Support, because it is a Research and Development (R&D) effort for I&M of T&E capabilities at AF Test Centers.</p>											

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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force				DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE			
3600: Research, Development, Test & Evaluation, Air Force		PE 0604256F: Threat Simulator Development			
BA 6: RDT&E Management Support					
B. Program Change Summary (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	33.951	27.789	0.000	0.000	0.000
Current President's Budget	33.951	23.331	21.245	0.000	21.245
Total Adjustments	0.000	-4.458	21.245	0.000	21.245
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	-4.458			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	21.245	0.000	21.245
Change Summary Explanation					
FY10: Revised Economic Assumptions \$4.458M.					
FY11: The FY2010 President's Budget submittal did not reflect FY 2011 through FY 2015 funding. Therefore explanation of changes between the two budget positions cannot be made in a relevant manner.					

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>				R-1 ITEM NOMENCLATURE PE 0604256F: <i>Threat Simulator Development</i>				PROJECT 662907: <i>Electronic Combat Intel Support</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
662907: <i>Electronic Combat Intel Support</i>	2.159	2.206	2.215	0.000	2.215	2.250	2.284	2.319	2.354	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification <p>This project provides funding to support Foreign Materiel Operational Test and Evaluation (FMOT&E), which ensures the ability of operational commands to test and develop effective Electronic Attack/Electronic Protection (EA/EP) techniques and tactics. Funds are required for: deployment of blue systems to test facilities; travel of personnel to the test sites to evaluate and validate test results; range and laboratory costs; test consumables; costs for instrumentation of blue systems; and contracted engineering support for the conduct of tests and subsequent reporting. Funding for this program is required to prevent future aircraft losses due to improper and inaccurate aircrew tactics (e.g., lack of evasive action or proper tactics training to avoid missile attack).</p> <p>Budget Activity Justification: This Program Element is in Budget Activity 6, Management Support, because it is a Research and Development (R&D) effort for Improvement and Modernization of T&E capabilities at Air Force Test Centers.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
MAJOR THRUST: Supports Foreign Materiel Operational Test and Evaluation (FMOT&E) <i>FY 2009 Accomplishments:</i> In FY 2009: Conducted foreign materiel operational analysis (FMOA) for fighter and bomber testing; mobility/special operations transport/helicopter testing; classified operational assessments; and extensive evaluations and reporting of blue system effectiveness.						2.159	2.206	2.215	0.000	2.215	

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force							DATE: February 2010				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 6: RDT&E Management Support				R-1 ITEM NOMENCLATURE PE 0604256F: Threat Simulator Development			PROJECT 662907: Electronic Combat Intel Support				
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: In FY 2010: Conduct foreign materiel operational analysis (FMOA) for fighter and bomber testing; mobility/special operations transport/helicopter testing; classified operational assessments; and extensive evaluations and reporting of blue system effectiveness.											
FY 2011 Base Plans: In FY 2011: Continue to conduct foreign materiel operational analysis (FMOA) for fighter and bomber testing; mobility/special operations transport/helicopter testing; classified operational assessments; and extensive evaluations and reporting of blue system effectiveness.											
FY 2011 OCO Plans: In FY 2011 OCO: Not applicable											
Accomplishments/Planned Programs Subtotals							2.159	2.206	2.215	0.000	2.215
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• PE Not Provided (138): Not Applicable	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
D. Acquisition Strategy											
Not applicable.											
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-2A, RDT&E Project Justification: PB 2011 Air Force								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>				R-1 ITEM NOMENCLATURE PE 0604256F: <i>Threat Simulator Development</i>				PROJECT 663321: <i>Electronic Warfare Ground Test Resources</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
663321: <i>Electronic Warfare Ground Test Resources</i>	24.119	13.508	11.441	0.000	11.441	12.544	13.761	14.318	13.958	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The AF requires a comprehensive set of test facilities to implement the Air Force Electronic Warfare (EW) Test Process in order to test EW systems, including Directed Energy (DE). To manage program risk effectively throughout the weapons system acquisition process, and conduct T&E effectively and efficiently, a broad multi-spectrum, integrated set of T&E capabilities for modeling and simulation through open-air ranges (OAR) are required. The EW Test Process Support task provides for investment management, coordinated technical oversight, and application of EW T&E facilities, including studies, analyses, and related documentation. The National Radar Cross Section (RCS) Test Facility (NRTF) at Holloman AFB, NM, provides timely, accurate, and secure RCS and antenna measurements for tri-service and joint program offices, DoD laboratories, DARPA and industry. The NRTF tests fielded and developmental systems and technology to meet Low Observable (a.k.a. stealth) and EW customer requirements. The Air Force Electronic Warfare Evaluation Simulator (AFEWES) and the Digital Integrated Air Defense System (DIADS) provide the ability to realistically evaluate hardware components and simulated weapon systems against manned hardware threat representations throughout the acquisition process. AFEWES provides simulations of advanced Infrared (IR) & Radio Frequency (RF) semi-active Surface-to-Air Missiles (SAMs), Air-to-Air Missiles (AAMs), RF missile warning, IR and Laser countermeasure functions; integration of actual threat hardware and ground clutter into advanced threat RF and IR missile simulations. DIADS provides algorithm based enemy command and control (C2) capabilities plus early warning radar detection, limited ground control intercept features and also allows man-in-the-loop interaction for the enemy C2 positions. The Installed Test Integration Program (ITIP) develops a multi-spectral synthetic battlespace with virtual and constructive modeling and simulation T&E capabilities at Edwards AFB, CA. The Air Warfare Mission Simulator (AWMS) program develops an electronic warfare capability with high fidelity reconfigurable cockpits. This program will also provide the capability to link high fidelity cockpits to the information battlespace via High Level Architecture (HLA).

Improvement and modernization efforts within this PE are identified in one mission area category: EW. EW provides planning, improvements, and modernization needed for test capabilities to conduct and support the AF EW test process, including DE. This test process provides a scientific methodology to ensure the effective disciplined and efficient testing of EW and avionics systems.

Budget Activity Justification: This Program Element is in Budget Activity 6, Management Support, because it is a Research and Development (R&D) effort for Improvement and Modernization of T&E capabilities at Air Force Test Centers.

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APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 6: RDT&E Management Support		R-1 ITEM NOMENCLATURE PE 0604256F: Threat Simulator Development		PROJECT 663321: Electronic Warfare Ground Test Resources		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
MAJOR THRUST: Provides for planning and improvement & modernization (I&M) of test capabilities to conduct and support the AF EW test process, including DE. FY 2009 Accomplishments: In FY 2009: Updated AFEWES, a Hardware-in-the-Loop (HITL), test capability to support high-fidelity RF and IR threat simulators to evaluate the effectiveness of DoD and Allied EW systems; DIADS architecture upgrades added a new capability to simulate evolving threats; ITIP integration of stand-alone EW stimulators developed integrated EW test scenarios; AWMS provided two reconfigurable high fidelity manned flight simulators; EWTATAM developed, deployed, and advanced data analysis tools and methodologies to improve efficiency and effectiveness of the EW Test Process; the NRTF enhanced efficiency of operations and accuracy for measuring RCS of Low Observable platforms and antennas. FY 2010 Plans: In FY 2010: AFEWES test capability I&M continues updates to support high-fidelity RF and IR threat simulators to evaluate effectiveness of DoD and Allied EW systems; DIADS architecture upgrades add new capabilities to simulate evolving threats; ITIP integration of stand-alone EW stimulators continues development of integrated EW test scenarios; AWTEC is providing a suite of state-of-the-art stimulators to replace 90's technology; and the NRTF continues to enhance efficiency of operations and accuracy for measuring RCS of Low Observable platforms and antennas. FY 2011 Base Plans: In FY 2011: AFEWES test capability I&M will continue to advance high-fidelity RF and IR threat simulators to evaluate effectiveness of DoD and Allied EW systems; DIADS architecture upgrades will continue to advance new capabilities to simulate evolving threats; ITIP integration of stand-alone EW stimulators will continue development of integrated EW test scenarios; AWTEC will continue to provide state-of-the-art stimulators to replace 90's technology; and the NRTF will continue to enhance efficiency of operations and accuracy for measuring RCS of Low Observable platforms and antennas.		23.126	12.361	10.250	0.000	10.250

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B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
FY 2011 OCO Plans: In FY2011 OCO: Not applicable.											
MAJOR THRUST: Electronic Combat (EC) Test Process Support. Conduct requirements analyses and other studies in support of Air Force investments in EW test infrastructure. FY 2009 Accomplishments: In FY 2009: Provided Systems Engineering / Technical Assistance (SETA) support for Air Force implementation of the EW Test Process, including I&M of the EW test infrastructure. FY 2010 Plans: In FY 2010: Continue to provide Systems Engineering / Technical Assistance (SETA) support for Air Force implementation of the EW Test Process, including I&M of the EW test infrastructure. FY 2011 Base Plans: In FY 2011: Continue to provide Systems Engineering / Technical Assistance (SETA) support for Air Force implementation of the EW Test Process, including I&M of the EW test infrastructure. FY 2011 OCO Plans: In FY 2011 OCO: Not applicable.						0.993	1.147	1.191	0.000	1.191	
Accomplishments/Planned Programs Subtotals						24.119	13.508	11.441	0.000	11.441	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• PE 0604759F: Major T&E Investment.	67.898	67.797	61.587	0.000	61.587	62.413	62.553	62.029	61.250	0.000	0.000

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C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• PE 0605807F: <i>T&E Support.</i>	756.327	749.756	759.868	0.000	759.868	758.259	732.288	748.855	777.809	0.000	0.000
D. Acquisition Strategy											
This program element uses several different contracting strategies to provide the most cost effective T&E investment solutions. The main acquisition strategy is to use full and open competition wherever possible to improve and modernize existing test capabilities.											
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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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
667500: <i>Foreign Materiel Acquisition/Analysis</i>	7.673	7.617	7.589	0.000	7.589	7.701	7.292	6.909	6.387	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This project's specific purpose is to support USAF Foreign Materiel Program requirements through the acquisition and analysis of foreign materiel. Items considered for these Foreign Materiel Acquisition (FMA) funds are included in the prioritized Air Force FMA Top 20 list established each year. Each Major Command (MAJCOM) prepares and approves a Foreign Materiel - Mission Requirements Statement for each requirement. Annually, the MAJCOM commanders establish a list of their top 20 requirements. The MAJCOMs' requirements lists are integrated and prioritized into a classified Air Force requirement list. Each MAJCOM then approves the FMA Top 20 List and final validation comes from the Air Force Vice Chief of Staff. System analyses are based on and driven by acquisitions. The USAF provides assessments and data for threat systems to all DoD components.

Budget Activity Justification: This Program Element is in Budget Activity 6, Management Support, because it is a Research and Development (R&D) effort for Improvement and Modernization of T&E capabilities at Air Force Test Centers.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
MAJOR THRUST: Supports USAF Foreign Materiel Program Requirements through the acquisition and analysis of foreign materiel.	7.673	7.617	7.589	0.000	7.589
<i>FY 2009 Accomplishments:</i> In FY 2009: Funded acquisition of available Foreign Materiel IAW the prioritized Air Force Foreign Materiel List; analysis of acquired Foreign Materiel; and operations and maintenance of the specialized Foreign Materiel assets.					

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B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2010 Plans:</i> In FY 2010: Fund acquisition of available Foreign Materiel IAW the prioritized Air Force Foreign Materiel List; analysis of acquired Foreign Materiel; and operations and maintenance of the specialized Foreign Materiel assets. <i>FY 2011 Base Plans:</i> In FY 2011: Continue to fund acquisition of available Foreign Materiel IAW the prioritized Air Force Foreign Materiel List; analysis of acquired Foreign Materiel; and operations and maintenance of the specialized Foreign Materiel assets. <i>FY 2011 OCO Plans:</i> In FY 2011 OCO: Not applicable.											
Accomplishments/Planned Programs Subtotals							7.673	7.617	7.589	0.000	7.589
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• PE Not Provided (326): <i>Not Applicable</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
D. Acquisition Strategy Not applicable.											
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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