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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604256F: <i>Threat Simulator Development</i>
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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	24.805	22.420	22.812	-	22.812	20.081	19.076	20.450	20.523	Continuing	Continuing
662907: <i>Electronic Combat Intel Support</i>	2.204	2.243	2.278	-	2.278	2.309	2.664	3.256	3.102	Continuing	Continuing
663321: <i>Electronic Warfare Ground Test Resources</i>	11.051	12.502	13.260	-	13.260	10.893	10.016	10.618	10.758	Continuing	Continuing
667500: <i>Foreign Materiel Acquisition/Analysis</i>	11.550	7.675	7.274	-	7.274	6.879	6.396	6.576	6.663	Continuing	Continuing

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

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. 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, improved M&S of threat sources, improved or new T&E capabilities to support EW testing and related documentation. Additionally, this PE provides funding to support the acquisition and analysis efforts of the Foreign Materiel Program and EW intelligence efforts.

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.

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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>
Previous President's Budget	21.245	22.420	23.234	-	23.234
Current President's Budget	24.805	22.420	22.812	-	22.812
Total Adjustments	3.560	-	-0.422	-	-0.422
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	4.000	-			
• SBIR/STTR Transfer	-0.332	-			
• Other Adjustments	-0.108	-	-0.422	-	-0.422

**Change Summary Explanation**

FY11: Reprogramming for 4.000 for Foreign Material Acquisition; -0.108 reduction for Congressional General Reductions in Other Adjustment Row

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2013 Air Force									<b>DATE:</b> February 2012		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 6: <i>RDT&amp;E Management Support</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604256F: <i>Threat Simulator Development</i>				<b>PROJECT</b> 662907: <i>Electronic Combat Intel Support</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
662907: <i>Electronic Combat Intel Support</i>	2.204	2.243	2.278	-	2.278	2.309	2.664	3.256	3.102	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 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 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 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).

Budget Activity Justification: This program is in Budget Activity 6, RDT&E Management Support, because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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

	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>
<b>Title:</b> FMOT&E	2.204	2.243	2.278
<b>Description:</b> Supports Foreign Materiel Operational Test and Evaluation (FMOT&E)			
<b>FY 2011 Accomplishments:</b> 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 system effectiveness.			
<b>FY 2012 Plans:</b> 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 system effectiveness.			
<b>FY 2013 Plans:</b> 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 system effectiveness.			
<b>Accomplishments/Planned Programs Subtotals</b>	2.204	2.243	2.278

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604256F: <i>Threat Simulator Development</i>	<b>PROJECT</b> 662907: <i>Electronic Combat Intel Support</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Not Applicable: <i>N/A</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

**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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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2013 Air Force									<b>DATE:</b> February 2012		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 6: <i>RDT&amp;E Management Support</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604256F: <i>Threat Simulator Development</i>				<b>PROJECT</b> 663321: <i>Electronic Warfare Ground Test Resources</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
663321: <i>Electronic Warfare Ground Test Resources</i>	11.051	12.502	13.260	-	13.260	10.893	10.016	10.618	10.758	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, Defense Advanced Research Projects Agency (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 Guided Weapons Evaluation Facility (GWEF), 412 EWG/OL-HN 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. GWEF 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 Advanced Warfare Test and Evaluation Capability (AWTEC) will replace 90's technology with state-of-the-art stimulators to upgrade the Benefield Anechoic Facility (BAF) at Edwards AFB, CA and provides EMI/EMC capabilities at the BAF. Improvement and modernization efforts within this PE are identified for the EW mission area. 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 is in Budget Activity 6, RDT&E Management Support, because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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

	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>
<b>Title:</b> I&M	9.917	11.298	11.958
<b>Description:</b> Provides for planning and improvement & modernization (I&M) of test capabilities to conduct and support the AF EW test process, including DE.			
<b>FY 2011 Accomplishments:</b>			

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>
<p>AFEWES test capability I&amp;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; AWTEC will continue to provide state-of-the-art stimulators to replace 90's technology and provides EMI/EMC test capabilities; and the NRTF will continue to enhance efficiency of operations and accuracy for measuring RCS of Low Observable platforms and antennas.</p> <p><b>FY 2012 Plans:</b> Transition of IR threat simulators to the GWEF to evaluate effectiveness of DoD IR EW systems will proceed per transition plan. Transition of RF threat simulators to the 412 EWG/OL-HN to evaluate effectiveness of DoD EW systems will continue as planned. DIADS architecture upgrades will continue to advance new capabilities to simulate evolving threats; AWTEC will continue to provide state-of-the-art stimulators to replace 90's technology and provides EMI/EMC test capabilities; and the NRTF will continue to enhance efficiency of operations and accuracy for measuring RCS of Low Observable platforms and antennas.</p> <p><b>FY 2013 Plans:</b> GWEF test capability I&amp;M will continue to advance high-fidelity IR threat simulators to evaluate effectiveness of DoD IR EW systems. Transition of RF threat simulators to the 412 EWG/OL-HN to evaluate effectiveness of DoD RF EW systems will be completed. DIADS architecture upgrades will continue to advance new capabilities to simulate evolving threats; AWTEC will continue to provide state-of-the-art stimulators to replace 90's technology and provides EMI/EMC test capabilities; and the NRTF will continue to enhance efficiency of operations and accuracy for measuring RCS of Low Observable platforms and antennas.</p>				
<p><b>Title:</b> EC Test Process Support</p> <p><b>Description:</b> Electronic Combat (EC) Test Process Support. Conduct requirements analyses and other studies in support of Air Force investments in EW test infrastructure.</p> <p><b>FY 2011 Accomplishments:</b> Continue to provide Systems Engineering / Technical Assistance (SETA) support for Air Force implementation of the EW Test Process, including I&amp;M of the EW test infrastructure.</p> <p><b>FY 2012 Plans:</b> Continue to provide Systems Engineering / Technical Assistance (SETA) support for Air Force implementation of the EW Test Process, including I&amp;M of the EW test infrastructure.</p> <p><b>FY 2013 Plans:</b> Continue to provide Systems Engineering / Technical Assistance (SETA) support for Air Force implementation of the EW Test Process, including I&amp;M of the EW test infrastructure.</p>		1.134	1.204	1.302
<b>Accomplishments/Planned Programs Subtotals</b>		11.051	12.502	13.260

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>			<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u>	
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• RDT&E AF, PE 0604759F, Major...: <i>Test and Evaluation Support</i>	59.469	62.206	42.236	0.000	42.236	43.044	42.899	46.198	47.688	Continuing	Continuing
• RDT&E AF, PE 0605807F, T&amp;...: <i>Test and Evaluation Support</i>	752.328	704.475	722.071	0.000	722.071	701.000	702.979	716.873	725.979	Continuing	Continuing
• RDT&E AF, PE 0605976F, Facil...: <i>Test and Evaluation Support</i>	46.091	44.547	42.597	0.000	42.597	35.046	43.815	26.899	29.067	Continuing	Continuing
• RDT&E AF, PE 0605978F, Facil...: <i>Test and Evaluation Support</i>	27.438	27.953	27.301	0.000	27.301	23.849	28.871	24.282	24.599	Continuing	Continuing

**D. Acquisition Strategy**

NA

**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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<b>COST (\$ in Millions)</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
667500: <i>Foreign Materiel Acquisition/Analysis</i>	11.550	7.675	7.274	-	7.274	6.879	6.396	6.576	6.663	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.

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.

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

	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>
<b>Title:</b> FMP	11.550	7.675	7.274
<b>Description:</b> Supports USAF Foreign Materiel Program (FMP) Requirements through the acquisition and analysis of foreign materiel.			
<b>FY 2011 Accomplishments:</b> 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.			
<b>FY 2012 Plans:</b> 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.			
Not applicable.			
<b>FY 2013 Plans:</b> 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.			

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>
Not applicable.			
<b>Accomplishments/Planned Programs Subtotals</b>	11.550	7.675	7.274

**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
• Not Applicable: <i>N/A</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

**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.