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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>					PE 0604256F: <i>Threat Simulator Development</i>							
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	-	26.473	22.812	17.690	-	17.690	22.213	22.542	20.523	20.892	Continuing	Continuing
662907: <i>Electronic Combat Intel Support</i>	-	2.243	2.278	1.558	-	1.558	2.664	3.256	3.102	3.158	Continuing	Continuing
663321: <i>Electronic Warfare Ground Test Resources</i>	-	12.143	13.260	12.355	-	12.355	10.842	11.168	10.758	10.951	Continuing	Continuing
667500: <i>Foreign Materiel Acquisition/Analysis</i>	-	12.087	7.274	3.777	-	3.777	8.707	8.118	6.663	6.783	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 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, RDT&E 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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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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	22.420	22.812	20.081	-	20.081
Current President's Budget	26.473	22.812	17.690	-	17.690
Total Adjustments	4.053	0.000	-2.391	-	-2.391
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	4.412	0.000			
• SBIR/STTR Transfer	-0.359	0.000			
• Other Adjustments	0.000	0.000	-2.391	-	-2.391
Change Summary Explanation					
FY12: \$4.412M reprogrammed for AF foreign materiel requirements.					
FY14: -\$2.391M decrease reflects realignment for higher DoD priorities.					

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force										DATE: April 2013		
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			
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
662907: Electronic Combat Intel Support	-	2.243	2.278	1.558	-	1.558	2.664	3.256	3.102	3.158	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
# 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 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).												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2012	FY 2013	FY 2014	
Title: FMOT&E									2.243	2.278	1.558	
Description: Supports Foreign Materiel Operational Test and Evaluation (FMOT&E)												
FY 2012 Accomplishments: 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 system effectiveness.												
FY 2013 Plans: 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.												
FY 2014 Plans: 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.												
Accomplishments/Planned Programs Subtotals									2.243	2.278	1.558	

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force										DATE: April 2013	
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>			
C. Other Program Funding Summary (\$ in Millions)											
			<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2014</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Complete</u>	<u>Total Cost</u>
• RDTE: BA 06: PE 0605807F: <i>Test and Evaluation Support</i>	737.697	722.071	742.658		742.658	698.869	704.063	708.671	714.639	Continuing	Continuing
Remarks											
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 2014 Air Force										DATE: April 2013		
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			
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
663321: Electronic Warfare Ground Test Resources	-	12.143	13.260	12.355	-	12.355	10.842	11.168	10.758	10.951	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
# 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 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.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2012	FY 2013	FY 2014	
Title: I&M									11.139	11.941	10.811	
Description: Provides for planning and improvement & modernization (I&M) of test capabilities to conduct and support the AF EW test process, including DE.												
FY 2012 Accomplishments: Per the Air Force Electronic Warfare Evaluation Simulator (AFEWES) transition plan, IR threat simulator hardware and RF threat simulator hardware was moved from the AFEWES facility to the GWEF and 412 EWG/OL-HN and capability reconstitution												

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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>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013	FY 2014
planning was initiated. DIADS developed and validated upgrades to simulate evolving threats in support of acquisition programs such as F-22 and MALD-J. AWTEC continued Benefield Anechoic Chamber (BAF) upgrades by completing EMI/EMC power upgrades, fielding new data products for improved test management, and fielding new real-time displays and controls. NRTF continued efforts to enhance efficiency of operations and accuracy for measuring RCS of Low Observable platforms and antennas, including design and fabrication of a new operational control center and adaptive signal processing and antenna development. FY 2013 Plans: The 412 EWG/OL-HN will continue RF threat simulator reconstitution by conducting functional checkouts, initiating facilities improvements and conducting operator training on the systems delivered in FY12. DIADS will continue to develop and validate architecture and simulation upgrades to advance new capabilities to simulate evolving threats, and begin efforts to improve weapon control algorithms and integrate jamming capabilities. AWTEC will continue BAF upgrades to provide new state-of-the-art stimulators and EMI/EMC test capabilities in high and low frequency bands. NRTF will continue facility upgrades to enhance efficiency of operations and accuracy for measuring RCS of Low Observable platforms and antennas, including next generation radar and follow-on antenna development. FY 2014 Plans: The 412 EWG/OL-HN will continue RF threat simulator reconstitution by initiating permanent installation and end-to-end checkout of approximately 1/3 of the RF threat simulator systems delivered in FY12. DIADS will continue to develop and validate architecture and simulation upgrades to advance new capabilities to simulate evolving threats, and continue efforts to improve weapon control algorithms and integrate jamming capabilities. AWTEC will continue BAF upgrades to provide better test chamber control, integration and monitoring. NRTF will continue facility upgrades to enhance efficiency of operations and accuracy for measuring RCS of Low Observable platforms and antennas, including software development and integration, verification and validation of a new antenna array.				
Title: EC Test Process Support Description: Electronic Combat (EC) Test Process Support. Conduct requirements analyses and other studies in support of Air Force T&E investments in test infrastructure and capabilities. FY 2012 Accomplishments: Provided Systems Engineering / Technical Assistance (SETA) support needed to implement planned Air Force test processes and infrastructure I&M capabilities. Team members supported tri-service studies and analysis identifying joint investment needs and developing requirements recommendations. FY 2013 Plans:		1.004	1.319	1.544

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B. Accomplishments/Planned Programs (\$ in Millions)										FY 2012	FY 2013	FY 2014
Continue to provide SETA support needed to implement planned Air Force test processes and infrastructure I&M capabilities. Team members will continue support to tri-service monitoring and analysis teams established to identify emerging joint investment needs and requirements development. Team members will help manage and monitor I&M program elements and activities.												
FY 2014 Plans: Continue to provide SETA support needed to implement planned Air Force test processes and infrastructure I&M capabilities. Team members will continue support to tri-service monitoring and analysis teams established to identify emerging joint investment needs and requirements development. Team members will help manage and monitor I&M program elements and activities.												
Accomplishments/Planned Programs Subtotals										12.143	13.260	12.355
C. Other Program Funding Summary (\$ in Millions)												
Line Item	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	
• RDTE: BA 06: PE 0604759F: <i>Major T&E Investment</i>	60.388	42.236	34.841		34.841	47.821	49.479	47.688	48.546	Continuing	Continuing	
• RDTE: BA 06: PE 0605807F: <i>Test and Evaluation Support</i>	737.697	722.071	742.658		742.658	698.869	704.063	708.671	714.639	Continuing	Continuing	
• RDTE: BA 06: PE 0605976: <i>Facility Restoration & Modernization - T&E</i>	44.547	42.597	44.160		44.160	43.765	26.774	28.970	29.492	Continuing	Continuing	
• RDTE: BA 06: PE 0605978F: <i>Facilities Sustainment - T&E Support</i>	27.953	27.301	27.643		27.643	28.698	23.898	24.301	24.739	Continuing	Continuing	
Remarks												
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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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
667500: Foreign Materiel Acquisition/Analysis	-	12.087	7.274	3.777	-	3.777	8.707	8.118	6.663	6.783	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
# 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 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.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2012	FY 2013	FY 2014	
Title: FMP									12.087	7.274	3.777	
Description: Supports USAF Foreign Materiel Program (FMP) Requirements through the acquisition and analysis of foreign materiel.												
FY 2012 Accomplishments: Continued 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.												
FY 2013 Plans: 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.												
FY 2014 Plans: 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.												
Accomplishments/Planned Programs Subtotals									12.087	7.274	3.777	

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C. Other Program Funding Summary (\$ in Millions)												
	<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
	• RDTE: BA 06: PE 0605807F: <i>Test and Evaluation Support</i>	737.697	722.071	742.658		742.658	698.869	704.063	708.671	714.639	Continuing	Continuing
Remarks												
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.												