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Exhibit R-2, PB 2010 Air Force RDT&E Budget Item Justification **DATE:** May 2009

APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE					
3600 - Research, Development, Test & Evaluation, Air Force/BA 3 - Advanced Technology Development (ATD)					PE 0603924F High Energy Laser Advanced Technology Program					
COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	3.688	4.002	3.831						Continuing	Continuing
635095: High Energy Laser Advanced Technology Program	3.688	4.002	3.831						Continuing	Continuing

A. Mission Description and Budget Item Justification

This program funds high energy laser (HEL) advanced technology development through the HEL Joint Technology Office (JTO). HEL weapons have many potential advantages, including speed-of-light delivery, precision target engagement, significant magazine depth, low-cost per kill, and reduced logistics requirements. HEL weapons have the potential to perform a wide variety of military missions including interception of ballistic missiles in boost phase, defeat of high-speed, maneuvering anti-ship and anti-aircraft missiles, and the ultra-precision negation of targets in urban environments with little/no collateral damage. This program is part of an overall Department of Defense (DoD) HEL Science and Technology program. This program is in Budget Activity 3, Advanced Technology Development, since it enables and demonstrates technologies for existing system upgrades and/or new system developments that have military utility and address warfighter needs.

B. Program Change Summary (\$ in Millions)

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
Previous President's Budget	3.790	4.013	3.890	
Current BES/President's Budget	3.688	4.002	3.831	
Total Adjustments	-0.102	-0.011	0.000	
Congressional Program Reductions	0.000	0.000		
Congressional Rescissions	0.000	-0.011		
Total Congressional Increases	0.000	0.000		
Total Reprogrammings	0.000	0.000		
SBIR/STTR Transfer	-0.102	0.000		

Change Summary Explanation

Not Applicable.

C. Performance Metrics

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Under Development.

R-1 ITEM NOMENCLATURE

PE 0603924F High Energy Laser Advanced Technology Program

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Exhibit R-2a, PB 2010 Air Force RDT&E Project Justification								DATE: May 2009		
APPROPRIATION/BUDGET ACTIVITY 3600 - Research, Development, Test & Evaluation, Air Force/BA 3 - Advanced Technology Development (ATD)				R-1 ITEM NOMENCLATURE PE 0603924F High Energy Laser Advanced Technology Program					PROJECT NUMBER 635095	
COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
635095: High Energy Laser Advanced Technology Program	3.688	4.002	3.831						Continuing	Continuing
A. Mission Description and Budget Item Justification N/A										
B. Accomplishments/Planned Program (\$ in Millions)						FY 2008	FY 2009	FY 2010	FY 2011	
<p>MAJOR THRUST: Advance solid state laser development, to include advanced technology demonstrations up to a Technology Readiness Level 6. Develop free electron laser technologies that scale to high power. Develop beam-control technologies for surface and air mission areas.</p> <p>In FY 2008: Under the Joint High Power Solid State Laser (JHPSSL) project, continued build-up and integration of the laser modules for the 100 kilowatt device. Initiated planning for a high-power beam director integrated demonstration, utilizing maturing solid-state laser technologies.</p> <p>In FY 2009: Under JHPSSL, complete the integration of modules for the 100 kilowatt project and demonstrate performance in a laboratory environment.</p> <p>In FY 2010: Initiate a joint high-power beam director development effort, suitable for mating with a JHPSSL device.</p>						3.688	4.002	3.831		

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APPROPRIATION/BUDGET ACTIVITY 3600 - Research, Development, Test & Evaluation, Air Force/BA 3 - Advanced Technology Development (ATD)			R-1 ITEM NOMENCLATURE PE 0603924F High Energy Laser Advanced Technology Program					PROJECT NUMBER 635095		
C. Other Program Funding Summary (\$ in Millions)										
	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	Cost To Complete	Total Cost
PE 0602890F/ High Energy Laser Research.	0.000	0.000							Continuing	Continuing
PE 0603444F/ Maui Space Surveillance System.	0.000	0.000							Continuing	Continuing
PE 0603605F/ Advanced Weapons Technology.	0.000	0.000							Continuing	Continuing
PE 0601108F/ High Energy Laser Research Initiatives.	0.000	0.000							Continuing	Continuing
PE 0603883C/ Ballistic Missile Defense Boost Phase Segment.	0.000	0.000							Continuing	Continuing
PE 0602605F/ Directed Energy Technology.	0.000	0.000							Continuing	Continuing
PE 0602307A/ Advanced Weapons Technology.	0.000	0.000							Continuing	Continuing
PE 0602114N/ Power Projection Applied Research.	0.000	0.000							Continuing	Continuing
PE 0602120A/ Sensors and Electronic Survivability.	0.000	0.000							Continuing	Continuing
PE 0603004A/ Weapons and Munitions Advanced Technology.	0.000	0.000							Continuing	Continuing
PE 0602702E/ Tactical Technology.	0.000	0.000							Continuing	Continuing
	0.000	0.000							Continuing	Continuing

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PE 0603175C/ Ballistic Missile Defense Technology.				
PE 0602651M/ Joint Non-Lethal Weapons Applied Research.	0.000	0.000	Continuing	Continuing
PE 0603651M/ Joint Non-Lethal Weapons Technology Development.	0.000	0.000	Continuing	Continuing
Activity Not Provided/N/A	0.000	0.000	Continuing	Continuing
<u>D. Acquisition Strategy</u>				
Not Applicable.				
<u>E. Performance Metrics</u>				
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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