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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 3: <i>Advanced Technology Development (ATD)</i>				PE 0603924F: <i>High Energy Laser Advanced Technology Program</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	3.685	1.847	1.122	-	1.122	1.237	1.569	2.382	2.422	Continuing	Continuing
635095: <i>High Energy Laser Advanced Technology Program</i>	3.685	1.847	1.122	-	1.122	1.237	1.569	2.382	2.422	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. Efforts in this program have been coordinated through the Reliance 21 process to harmonize efforts and eliminate duplication. 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)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	3.794	1.847	1.122	-	1.122
Current President's Budget	3.685	1.847	1.122	-	1.122
Total Adjustments	-0.109	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.109	-			
• Other Adjustments	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
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 635095: High Energy Laser Advanced Technology Program			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
635095: High Energy Laser Advanced Technology Program	3.685	1.847	1.122	-	1.122	1.237	1.569	2.382	2.422	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. Efforts in this program have been coordinated through the Reliance 21 process to harmonize efforts and eliminate duplication. 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. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Major Thrust 1.							3.685	1.847	1.122	-	1.122
Description: Advance solid state laser development. Develop beam-control technologies for surface and air mission areas.											
FY 2010 Accomplishments: Initiated a joint high-power beam director development effort, suitable for mating with a 100 kilowatt (kW)-class solid state laser device. Awarded a contract, in collaboration with the Army’s High Energy Laser Test Facility (HELSTF).											
FY 2011 Plans: Integrate a joint high-power beam director, with a 100 kW-class device. Conduct integrated system tests in a field environment at HELSTF.											
FY 2012 Base Plans: Demonstrate an integrated solid-state laser capability in a field environment at HELSTF.											
FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals							3.685	1.847	1.122	-	1.122

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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 3: <i>Advanced Technology Development (ATD)</i>	R-1 ITEM NOMENCLATURE PE 0603924F: <i>High Energy Laser Advanced Technology Program</i>	PROJECT 635095: <i>High Energy Laser Advanced Technology Program</i>	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Activity Not Provided: <i>Title Not Provided</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

N/A

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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