### **UNCLASSIFIED**

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

R-1 ITEM NOMENCLATURE

3600: Research, Development, Test & Evaluation, Air Force

PE 0603924F: High Energy Laser Advanced Technology Program

**DATE:** February 2012

BA 3: Advanced Technology Development (ATD)

APPROPRIATION/BUDGET ACTIVITY

| COST (\$ in Millions)                                    | FY 2011 | FY 2012 | FY 2013<br>Base | FY 2013<br>OCO | FY 2013<br>Total | FY 2014 | FY 2015 | FY 2016 | FY 2017 | Cost To<br>Complete | Total Cost |
|--|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| Total Program Element                                    | 1.779   | 1.122   | -               | -              | -                | -       | -       | -       | -       | Continuing          | Continuing |
| 635095: High Energy Laser<br>Advanced Technology Program | 1.779   | 1.122   | -               | -              | -                | -       | -       | -       | -       | Continuing          | Continuing |

### A. Mission Description and Budget Item Justification

This program funds Department of Defense (DoD) 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 defeat of high-speed, maneuvering anti-ship and anti-aircraft missiles and the ultra-precision negation of targets in urban environments with minimal collateral damage. This program is part of the overall DoD HEL Science and Technology program. Efforts in this program have been coordinated through the Reliance 21 process to harmonize efforts and eliminate duplication. This program is in Budget Activity 3, Advanced Technology Development, since it enables and demonstrates HEL capabilities and concepts.

| B. Program Change Summary (\$ in Millions)            | FY 2011 | FY 2012 | FY 2013 Base | FY 2013 OCO | FY 2013 Total |
|---|---------|---------|--------------|-------------|---------------|
| Previous President's Budget                           | 1.847   | 1.122   | 1.237        | -           | 1.237         |
| Current President's Budget                            | 1.779   | 1.122   | -            | -           | -             |
| Total Adjustments                                     | -0.068  | -       | -1.237       | -           | -1.237        |
| <ul> <li>Congressional General Reductions</li> </ul>  | -       | -       |              |             |               |
| <ul> <li>Congressional Directed Reductions</li> </ul> | -       | -       |              |             |               |
| <ul> <li>Congressional Rescissions</li> </ul>         | -       | -       |              |             |               |
| <ul> <li>Congressional Adds</li> </ul>                | -       | -       |              |             |               |
| <ul> <li>Congressional Directed Transfers</li> </ul>  | -       | -       |              |             |               |
| Reprogrammings  | -       | -       |              |             |               |
| SBIR/STTR Transfer                                    | -0.054  | -       |              |             |               |
| Other Adjustments                                     | -0.014  | -       | -1.237       | -           | -1.237        |

# **Change Summary Explanation**

FY11: Other Adjustments include -0.014 Congressional General Reductions

Decrease in FY13 is due to higher Department of Defense priorities.

| C. Accomplishments/Planned Programs (\$ in Millions) |         |         | FY 2013 | FY 2013 | FY 2013 |
|--|---------|---------|---------|---------|---------|
|  | FY 2011 | FY 2012 | Base    | oco     | Total   |
| Title: Major Thrust 1.                               | 1.779   | 1.122   | -       | -       | -       |

PE 0603924F: *High Energy Laser Advanced Technology Program* Air Force

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3600: Research, Development, Test & Evaluation, Air Force

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| C. Accomplishments/Planned Programs (\$ in Millions)  | FY 2011 | FY 2012 | FY 2013<br>Base | FY 2013<br>OCO | FY 2013<br>Total |
|---|---------|---------|-----------------|----------------|------------------|
| <b>Description:</b> Advance solid state laser development. Develop beam-control technologies for surface and air mission areas.   |         |         |                 |                |                  |
| FY 2011 Accomplishments: Initiated integration of a joint high-power beam director, with a 100 kilowatt-class laser device, in preparation for system tests in a field environment at High Energy Laser Systems Test Facility (HELSTF). |         |         |                 |                |                  |
| FY 2012 Plans: Complete integrated systems field tests at HELSTF. Demonstrate solid-state laser capability with adaptive optics beam control architecture in a field environment against selected targets.                              |         |         |                 |                |                  |
| FY 2013 Base Plans: Reduction due to higher Department of Defense priorities.   |         |         |                 |                |                  |
| FY 2013 OCO Plans:<br>N/A   |         |         |                 |                |                  |
| Accomplishments/Planned Programs Subtotals  | 1.779   | 1.122   | -               | -              | -                |

# D. Other Program Funding Summary (\$ in Millions)

|                   |         |         | FY 2013     | FY 2013    | FY 2013      |         |         |         |         | Cost To         |                   |  |
|-------------------|---------|---------|-------------|------------|--------------|---------|---------|---------|---------|-----------------|-------------------|--|
| <u>Line Item</u>  | FY 2011 | FY 2012 | <b>Base</b> | <u>000</u> | <u>Total</u> | FY 2014 | FY 2015 | FY 2016 | FY 2017 | <b>Complete</b> | <b>Total Cost</b> |  |
| • N/A: <i>N/A</i> | 0.000   | 0.000   | 0.000       | 0.000      | 0.000        | 0.000   | 0.000   | 0.000   | 0.000   | Continuing      | Continuing        |  |

# E. Acquisition Strategy

N/A

#### **F. 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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