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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2014 Office of Secretary Of Defense **DATE:** April 2013

|                                                                                                                                                              |                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| <b>APPROPRIATION/BUDGET ACTIVITY</b><br>0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i><br>BA 6: <i>RDT&amp;E Management Support</i> | <b>R-1 ITEM NOMENCLATURE</b><br>PE 0606301D8Z: <i>Aviation Safety Technologies</i> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|

| COST (\$ in Millions)                    | All Prior Years | FY 2012 | FY 2013 <sup>#</sup> | FY 2014 Base | FY 2014 OCO <sup>##</sup> | FY 2014 Total | FY 2015 | FY 2016 | FY 2017 | FY 2018 | Cost To Complete | Total Cost |
|------------------------------------------|-----------------|---------|----------------------|--------------|---------------------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element                    | 18.172          | 6.877   | 0.000                | 0.000        | -                         | 0.000         | 0.000   | 0.000   | 0.000   | 0.000   | Continuing       | Continuing |
| 901: <i>Aviation Safety Technologies</i> | 18.172          | 6.877   | 0.000                | 0.000        | -                         | 0.000         | 0.000   | 0.000   | 0.000   | 0.000   | Continuing       | Continuing |
| Quantity of RDT&E Articles               |                 |         |                      |              |                           |               |         |         |         |         |                  |            |

<sup>#</sup> FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

<sup>##</sup> The FY 2014 OCO Request will be submitted at a later date

## A. Mission Description and Budget Item Justification

This funding supports Secretary Gates direction to achieve a 75% reduction in accidents and supports the Defense Safety Oversight Council's (DSOC) pursuit of aviation safety technologies. The Guidance for the Development of the Force (GDF) directs DoD Components to pursue accident reduction and prevention initiatives that emphasize safety in the workplace and hold leaders accountable for their safety programs. In FY 2008, there were 89 Class A aviation accidents with 61 destroyed aircraft and 32 fatalities. The aviation accidents cost the Department over \$2.9 billion with indirect costs approximately four times that amount.

The DSOC used a data-driven approach to identify and evaluate the most effective hardware and software technologies to be implemented to reduce preventable aviation mishaps. The DSOC task force surveyed existing programs and provided an assessment of the viability and advisability of future resource investments. These investments will fund hardware and software technology to prevent helicopters and fighter aircraft mishaps.

Automatic Collision Avoidance Technologies (ACAT) has been developed by the Air Force to prevent the most prevalent causes of fighter/attack mishap fatalities and destroyed aircraft. An Automatic Ground Collision Avoidance (Auto-GCAS) component of ACAT has matured and is ready for fleet integration. FY 2010-FY 2012 money was used to leverage the successes of ACAT by furthering the development of Auto-ACAS, while retaining scarce technical expertise and flight test resources currently in use. As an unintended side benefit, Auto-ACAS may also hold a key to Unoccupied Aerial Vehicle access to the National Airspace.

The Secretary stated that we can not and should not tolerate the injuries, costs, and capability losses from preventable accidents.

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------|------------------------------------------------------------------------------------|-------------------------|----------------------|
| <b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2014 Office of Secretary Of Defense                                                                                                                |                |                |                                                                                    | <b>DATE:</b> April 2013 |                      |
| <b>APPROPRIATION/BUDGET ACTIVITY</b><br>0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i><br>BA 6: <i>RDT&amp;E Management Support</i>                                                   |                |                | <b>R-1 ITEM NOMENCLATURE</b><br>PE 0606301D8Z: <i>Aviation Safety Technologies</i> |                         |                      |
| <b>B. Program Change Summary (\$ in Millions)</b>                                                                                                                                                              | <b>FY 2012</b> | <b>FY 2013</b> | <b>FY 2014 Base</b>                                                                | <b>FY 2014 OCO</b>      | <b>FY 2014 Total</b> |
| Previous President's Budget                                                                                                                                                                                    | 6.879          | 0.000          | 0.000                                                                              | -                       | 0.000                |
| Current President's Budget                                                                                                                                                                                     | 6.877          | 0.000          | 0.000                                                                              | -                       | 0.000                |
| Total Adjustments                                                                                                                                                                                              | -0.002         | 0.000          | 0.000                                                                              | -                       | 0.000                |
| • Congressional General Reductions                                                                                                                                                                             | -              | -              |                                                                                    |                         |                      |
| • Congressional Directed Reductions                                                                                                                                                                            | -              | -              |                                                                                    |                         |                      |
| • Congressional Rescissions                                                                                                                                                                                    | -              | -              |                                                                                    |                         |                      |
| • Congressional Adds                                                                                                                                                                                           | -              | -              |                                                                                    |                         |                      |
| • Congressional Directed Transfers                                                                                                                                                                             | -              | -              |                                                                                    |                         |                      |
| • Reprogrammings                                                                                                                                                                                               | -0.002         | -              |                                                                                    |                         |                      |
| • SBIR/STTR Transfer                                                                                                                                                                                           | -              | -              |                                                                                    |                         |                      |
| <b>C. Accomplishments/Planned Programs (\$ in Millions)</b>                                                                                                                                                    |                |                |                                                                                    | <b>FY 2012</b>          | <b>FY 2013</b>       |
| <b>Title:</b> Aviation Safety Technologies                                                                                                                                                                     |                |                |                                                                                    | 6.877                   | 0.000                |
| <b>FY 2012 Accomplishments:</b>                                                                                                                                                                                |                |                |                                                                                    |                         |                      |
| • Completed algorithm development and began simulations.                                                                                                                                                       |                |                |                                                                                    |                         |                      |
| • Completed simulations and ground testing and advanced to F-16 flight test.                                                                                                                                   |                |                |                                                                                    |                         |                      |
| <b>Accomplishments/Planned Programs Subtotals</b>                                                                                                                                                              |                |                |                                                                                    | 6.877                   | 0.000                |
| <b>D. Other Program Funding Summary (\$ in Millions)</b>                                                                                                                                                       |                |                |                                                                                    |                         |                      |
| N/A                                                                                                                                                                                                            |                |                |                                                                                    |                         |                      |
| <b>Remarks</b>                                                                                                                                                                                                 |                |                |                                                                                    |                         |                      |
| <b>E. Acquisition Strategy</b>                                                                                                                                                                                 |                |                |                                                                                    |                         |                      |
| N/A                                                                                                                                                                                                            |                |                |                                                                                    |                         |                      |
| <b>F. Performance Metrics</b>                                                                                                                                                                                  |                |                |                                                                                    |                         |                      |
| • Class A aviation accident rates. Number of Class A aviation accidents, (resulting in damages of \$2 million or more; aircraft destroyed; and/or fatality or permanent disability), per 100,000 flying hours. |                |                |                                                                                    |                         |                      |
| • Number of destroyed aircraft.                                                                                                                                                                                |                |                |                                                                                    |                         |                      |
| • Number of aviation fatalities.                                                                                                                                                                               |                |                |                                                                                    |                         |                      |
| • A 75% reduction goal was assessed against a FY 2002 baseline.                                                                                                                                                |                |                |                                                                                    |                         |                      |