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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Air Force **Date:** March 2014

| <b>Appropriation/Budget Activity</b>                                                                                  |                    |                |                |                     | <b>R-1 Program Element (Number/Name)</b>                                   |                      |                |                |                |                |                         |                   |
|-----------------------------------------------------------------------------------------------------------------------|--------------------|----------------|----------------|---------------------|----------------------------------------------------------------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 3600: Research, Development, Test & Evaluation, Air Force I BA 4: Advanced Component Development & Prototypes (ACD&P) |                    |                |                |                     | PE 0604327F I Hard and Deeply Buried Target Defeat System (HDBTDS) Program |                      |                |                |                |                |                         |                   |
| <b>COST (\$ in Millions)</b>                                                                                          | <b>Prior Years</b> | <b>FY 2013</b> | <b>FY 2014</b> | <b>FY 2015 Base</b> | <b>FY 2015 OCO #</b>                                                       | <b>FY 2015 Total</b> | <b>FY 2016</b> | <b>FY 2017</b> | <b>FY 2018</b> | <b>FY 2019</b> | <b>Cost To Complete</b> | <b>Total Cost</b> |
| Total Program Element                                                                                                 | 324.812            | 16.626         | 0.103          | -                   | -                                                                          | -                    | -              | -              | -              | -              | -                       | 341.541           |
| 645341: Direct Strike Penetrator Systems                                                                              | 324.812            | 16.626         | 0.103          | -                   | -                                                                          | -                    | -              | -              | -              | -              | -                       | 341.541           |
| Quantity of RDT&E Articles                                                                                            | 21.000             | -              | -              | -                   | -                                                                          | -                    | -              | -              | -              | -              |                         |                   |

**MDAP/MAIS Code:** 475

# The FY 2015 OCO Request will be submitted at a later date.

## A. Mission Description and Budget Item Justification

Direct Strike Penetrator Systems project includes the development of a Quick Reaction Capability (QRC) known as Massive Ordnance Penetrator (MOP) and analysis efforts for the follow-on Hard Target Munitions (HTM) program. The Hard and Deeply Buried Target Defeat System (HDBTDS) development activity is based on the Initial Capabilities Document (ICD) for HDBTDS, 1 Aug 2005, and the MOP development is based on the 2007 Urgent Operational Need (UON) document (resubmitted in 2009). The Direct Strike Penetrator System is an advanced precision guided penetrator munition that will provide the Air Force with an improved capability using air-to-surface conventional munitions to attack Hard & Deeply Buried Targets (HDBT), such as bunker and tunnel facilities. This system holds HDBTs at risk using fewer weapons and reducing the number of missions necessary to defeat targets, resulting in an increase to overall mission survivability. The Direct Strike Penetrator provides a critical global strike capability not currently met by inventory conventional weapons. It will hold at risk those highest priority assets essential to the enemy's warfighting ability, which are heavily defended and protected. The Direct Strike Penetrator Systems project is also conducting a HTM analysis-of-alternative (AoA) to determine the best weapons and/or development efforts for addressing the Hard and Deeply Buried Targets (HDBT) mission area. At the completion of the AoA, the Air Force will add funds to start the development, production, modification activities for the HDBT attack weapons identified in the AoA as the most effective and affordable weapons. The AoA will include the performance, operational suitability, and cost of alternative hard target defeat systems. HTM is a pre-MDAP program.

This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because effort is necessary to evaluate integrated technologies, representative modes or prototype systems in high fidelity and realistic operating environment.

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| Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force                                                                                                                                                                                                                                                                                                                                                                    |         |                                                                            |              | Date: March 2014 |               |         |
| Appropriation/Budget Activity                                                                                                                                                                                                                                                                                                                                                                                                      |         | R-1 Program Element (Number/Name)                                          |              |                  |               |         |
| 3600: Research, Development, Test & Evaluation, Air Force I BA 4: Advanced Component Development & Prototypes (ACD&P)                                                                                                                                                                                                                                                                                                              |         | PE 0604327F I Hard and Deeply Buried Target Defeat System (HDBTDS) Program |              |                  |               |         |
| B. Program Change Summary (\$ in Millions)                                                                                                                                                                                                                                                                                                                                                                                         | FY 2013 | FY 2014                                                                    | FY 2015 Base | FY 2015 OCO      | FY 2015 Total |         |
| Previous President's Budget                                                                                                                                                                                                                                                                                                                                                                                                        | 16.711  | 0.103                                                                      | -            | -                | -             |         |
| Current President's Budget                                                                                                                                                                                                                                                                                                                                                                                                         | 16.626  | 0.103                                                                      | -            | -                | -             |         |
| Total Adjustments                                                                                                                                                                                                                                                                                                                                                                                                                  | -0.085  | -                                                                          | -            | -                | -             |         |
| • Congressional General Reductions                                                                                                                                                                                                                                                                                                                                                                                                 | -0.022  | -                                                                          |              |                  |               |         |
| • Congressional Directed Reductions                                                                                                                                                                                                                                                                                                                                                                                                | -       | -                                                                          |              |                  |               |         |
| • Congressional Rescissions                                                                                                                                                                                                                                                                                                                                                                                                        | -       | -                                                                          |              |                  |               |         |
| • Congressional Adds                                                                                                                                                                                                                                                                                                                                                                                                               | -       | -                                                                          |              |                  |               |         |
| • Congressional Directed Transfers                                                                                                                                                                                                                                                                                                                                                                                                 | -       | -                                                                          |              |                  |               |         |
| • Reprogrammings                                                                                                                                                                                                                                                                                                                                                                                                                   | -       | -                                                                          |              |                  |               |         |
| • SBIR/STTR Transfer                                                                                                                                                                                                                                                                                                                                                                                                               | -0.063  | -                                                                          |              |                  |               |         |
| • Other Adjustments                                                                                                                                                                                                                                                                                                                                                                                                                | -       | -                                                                          | -            | -                | -             |         |
| Change Summary Explanation                                                                                                                                                                                                                                                                                                                                                                                                         |         |                                                                            |              |                  |               |         |
| No Significant Changes                                                                                                                                                                                                                                                                                                                                                                                                             |         |                                                                            |              |                  |               |         |
| C. Accomplishments/Planned Programs (\$ in Millions)                                                                                                                                                                                                                                                                                                                                                                               |         |                                                                            |              | FY 2013          | FY 2014       | FY 2015 |
| Title: Massive Ordnance Penetrator (MOP) Weapon Development, Target Construction, and System Test and Evaluation                                                                                                                                                                                                                                                                                                                   |         |                                                                            |              | 16.626           | 0.103         | -       |
| Description: MOP Weapon development/redesign and test and integration on the B-2. Develop the Enhanced Threat Response (ETR-1 and ETR-2) capability for the baseline MOP weapon. Construct several hard and deeply buried targets for live weapon testing. Conduct ground and flight tests to verify ETR-1 and ETR-2 design changes, including MOP system test and evaluation, qualification testing, weapon certification on B-2A |         |                                                                            |              |                  |               |         |
| FY 2013 Accomplishments:<br>Complete development of MOP ETR-2 capability. Incorporate ETR-2 changes in three test weapons. Construct test targets and conduct three tests to evaluate the ETR-2 capability                                                                                                                                                                                                                         |         |                                                                            |              |                  |               |         |
| FY 2014 Plans:<br>Complete AoA efforts.                                                                                                                                                                                                                                                                                                                                                                                            |         |                                                                            |              |                  |               |         |
| FY 2015 Plans:<br>N/A                                                                                                                                                                                                                                                                                                                                                                                                              |         |                                                                            |              |                  |               |         |
| Accomplishments/Planned Programs Subtotals                                                                                                                                                                                                                                                                                                                                                                                         |         |                                                                            |              | 16.626           | 0.103         | -       |

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| Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force                                                                                                                                                                                    |         |         |                 |                |                                                                                                                 |         |         |         |         | Date: March 2014    |            |
| Appropriation/Budget Activity<br>3600: Research, Development, Test & Evaluation, Air Force I BA 4: Advanced Component Development & Prototypes (ACD&P)                                                                                             |         |         |                 |                | R-1 Program Element (Number/Name)<br>PE 0604327F I Hard and Deeply Buried Target Defeat System (HDBTDS) Program |         |         |         |         |                     |            |
| D. Other Program Funding Summary (\$ in Millions)                                                                                                                                                                                                  |         |         |                 |                |                                                                                                                 |         |         |         |         |                     |            |
| Line Item                                                                                                                                                                                                                                          | FY 2013 | FY 2014 | FY 2015<br>Base | FY 2015<br>OCO | FY 2015<br>Total                                                                                                | FY 2016 | FY 2017 | FY 2018 | FY 2019 | Cost To<br>Complete | Total Cost |
| • RDTE: BA07: PE<br>0604240F: B-2 Bomber                                                                                                                                                                                                           | -       | -       | -               | -              | -                                                                                                               | -       | -       | -       | -       | -                   | 80.683     |
| • APAF: BA05: Line Item # B01B00:<br>B-2 Squadrons, PE 0101127F                                                                                                                                                                                    | 7.000   | -       | -               | -              | -                                                                                                               | -       | -       | -       | -       | -                   | 75.651     |
| • PAAF: BA01: Line Item<br>#353020: WRM-Ammunition<br>(General Purpose Bombs)                                                                                                                                                                      | 4.158   | -       | -               | -              | -                                                                                                               | -       | -       | -       | -       | -                   | 57.484     |
| Remarks                                                                                                                                                                                                                                            |         |         |                 |                |                                                                                                                 |         |         |         |         |                     |            |
| E. Acquisition Strategy                                                                                                                                                                                                                            |         |         |                 |                |                                                                                                                 |         |         |         |         |                     |            |
| MOP is a Quick Reaction Capability (QRC) with a sole source cost plus incentive fee contract to a single contractor.                                                                                                                               |         |         |                 |                |                                                                                                                 |         |         |         |         |                     |            |
| 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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|-------------------------------------------------------------|------------------------|-------------------------------------------------------|-------------|---------|------------|------------------------------------------------------------------------------------------------------------------------|------------|--------------|------------|---------------------------------------------------------------------------|------------|------------------|------------------|------------|--------------------------|
| Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force |                        |                                                       |             |         |            |                                                                                                                        |            |              |            |                                                                           |            | Date: March 2014 |                  |            |                          |
| Appropriation/Budget Activity<br>3600 / 4                   |                        |                                                       |             |         |            | R-1 Program Element (Number/Name)<br>PE 0604327F / <i>Hard and Deeply Buried Target Defeat System (HDBTDS) Program</i> |            |              |            | Project (Number/Name)<br>645341 / <i>Direct Strike Penetrator Systems</i> |            |                  |                  |            |                          |
| Product Development (\$ in Millions)                        |                        |                                                       |             | FY 2013 |            | FY 2014                                                                                                                |            | FY 2015 Base |            | FY 2015 OCO                                                               |            | FY 2015 Total    |                  |            |                          |
| Cost Category Item                                          | Contract Method & Type | Performing Activity & Location                        | Prior Years | Cost    | Award Date | Cost                                                                                                                   | Award Date | Cost         | Award Date | Cost                                                                      | Award Date | Cost             | Cost To Complete | Total Cost | Target Value of Contract |
| MOP Weapon Development                                      | SS/CPIF                | Boeing : St Louis, MO                                 | 190.063     | 5.709   | Mar 2013   | -                                                                                                                      |            | -            |            | -                                                                         |            | -                | -                | 195.772    | 195.772                  |
| Hard Target Munitions (HTM) Capabilities Analysis           | Various                | Whitney, Bradley & Brown; ARA; Booz Allen : Eglin, FL | 3.614       | -       |            | -                                                                                                                      |            | -            |            | -                                                                         |            | -                | -                | 3.614      | 3.614                    |
| HTM Concept/Technology Study                                | Various                | Several Local Companies : Eglin, FL                   | 2.779       | -       |            | -                                                                                                                      |            | -            |            | -                                                                         |            | -                | -                | 2.779      | 2.779                    |
| HTM Weapons Effects/ Target Analysis                        | RO                     | Defense Threat Reduction Agency : Eglin AFB, FL       | 1.087       | -       |            | -                                                                                                                      |            | -            |            | -                                                                         |            | -                | -                | 1.087      | 1.087                    |
| HTM Concept Tech Data                                       | Various                | Several Local Companies : Eglin AFB, FL               | 1.811       | -       |            | -                                                                                                                      |            | -            |            | -                                                                         |            | -                | -                | 1.811      | 1.811                    |
| HTM Technical Support                                       | Various                | Jacobs Engr. : Eglin, FL                              | 1.751       | -       |            | -                                                                                                                      |            | -            |            | -                                                                         |            | -                | -                | 1.751      | 1.751                    |
| Subtotal                                                    |                        |                                                       | 201.105     | 5.709   |            | -                                                                                                                      |            | -            |            | -                                                                         |            | -                | -                | 206.814    | 206.814                  |
| Support (\$ in Millions)                                    |                        |                                                       |             | FY 2013 |            | FY 2014                                                                                                                |            | FY 2015 Base |            | FY 2015 OCO                                                               |            | FY 2015 Total    |                  |            |                          |
| Cost Category Item                                          | Contract Method & Type | Performing Activity & Location                        | Prior Years | Cost    | Award Date | Cost                                                                                                                   | Award Date | Cost         | Award Date | Cost                                                                      | Award Date | Cost             | Cost To Complete | Total Cost | Target Value of Contract |
| Govt Support                                                | Various                | Several Govt Labs and test Centers : Eglin AFB, FL    | 9.484       | 0.715   |            | -                                                                                                                      |            | -            |            | -                                                                         |            | -                | -                | 10.199     | 10.199                   |
| Subtotal                                                    |                        |                                                       | 9.484       | 0.715   |            | -                                                                                                                      |            | -            |            | -                                                                         |            | -                | -                | 10.199     | 10.199                   |
|                                                             |                        |                                                       |             |         |            |                                                                                                                        |            |              |            |                                                                           |            |                  |                  |            |                          |

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|-------------------------------------------------------------------|------------------------|-----------------------------------------------------------|-------------|---------|------------|------------------------------------------------------------------------------------------------------------------------|------------|--------------|------------|---------------------------------------------------------------------------|------------|------------------|------------------|------------|--------------------------|
| Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force       |                        |                                                           |             |         |            |                                                                                                                        |            |              |            |                                                                           |            | Date: March 2014 |                  |            |                          |
| Appropriation/Budget Activity<br>3600 / 4                         |                        |                                                           |             |         |            | R-1 Program Element (Number/Name)<br>PE 0604327F / <i>Hard and Deeply Buried Target Defeat System (HDBTDS) Program</i> |            |              |            | Project (Number/Name)<br>645341 / <i>Direct Strike Penetrator Systems</i> |            |                  |                  |            |                          |
| Test and Evaluation (\$ in Millions)                              |                        |                                                           |             | FY 2013 |            | FY 2014                                                                                                                |            | FY 2015 Base |            | FY 2015 OCO                                                               |            | FY 2015 Total    |                  |            |                          |
| Cost Category Item                                                | Contract Method & Type | Performing Activity & Location                            | Prior Years | Cost    | Award Date | Cost                                                                                                                   | Award Date | Cost         | Award Date | Cost                                                                      | Award Date | Cost             | Cost To Complete | Total Cost | Target Value of Contract |
| MOP System Test & Evaluation                                      | RO                     | AAC : Eglin AFB, FL                                       | 4.088       | 2.281   |            | -                                                                                                                      |            | -            |            | -                                                                         |            | -                | -                | 6.369      | 6.369                    |
| MOP Flight Test Range Support                                     | Various                | White Sands Missile Range : White Sands Missile Range, NM | 12.144      | 1.500   | Jan 2014   | -                                                                                                                      |            | -            |            | -                                                                         |            | -                | -                | 13.644     | 13.644                   |
| Target Construction and Instrumentation (MOP)                     | Various                | Defense Threat Reduction Agency : Albuquerque, NM         | 79.797      | 1.730   |            | -                                                                                                                      |            | -            |            | -                                                                         |            | -                | -                | 81.527     | 81.527                   |
| MOP Test and Evaluation Activities                                | Various                | AF Flight Test Center : Albuquerque, NM                   | 12.406      | 0.717   |            | -                                                                                                                      |            | -            |            | -                                                                         |            | -                | -                | 13.123     | 13.123                   |
| Subtotal                                                          |                        |                                                           | 108.435     | 6.228   |            | -                                                                                                                      |            | -            |            | -                                                                         |            | -                | -                | 114.663    | 114.663                  |
| Management Services (\$ in Millions)                              |                        |                                                           |             | FY 2013 |            | FY 2014                                                                                                                |            | FY 2015 Base |            | FY 2015 OCO                                                               |            | FY 2015 Total    |                  |            |                          |
| Cost Category Item                                                | Contract Method & Type | Performing Activity & Location                            | Prior Years | Cost    | Award Date | Cost                                                                                                                   | Award Date | Cost         | Award Date | Cost                                                                      | Award Date | Cost             | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management Administration (PMA) for MOP                   | Various                | AFLCMC/EBD : Eglin AFB, FL                                | 5.402       | 3.850   |            | -                                                                                                                      |            | -            |            | -                                                                         |            | -                | -                | 9.252      | -                        |
| Program Management Administration (PMA) for Hard Target Munitions | Various                | AFLCMC/XR : Eglin AFB, FL                                 | 0.386       | 0.124   |            | 0.103                                                                                                                  |            | -            |            | -                                                                         |            | -                | -                | 0.613      | -                        |
| Subtotal                                                          |                        |                                                           | 5.788       | 3.974   |            | 0.103                                                                                                                  |            | -            |            | -                                                                         |            | -                | -                | 9.865      | -                        |
|                                                                   |                        |                                                           | Prior Years | FY 2013 |            | FY 2014                                                                                                                |            | FY 2015 Base |            | FY 2015 OCO                                                               |            | FY 2015 Total    | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals                                               |                        |                                                           | 324.812     | 16.626  |            | 0.103                                                                                                                  |            | -            |            | -                                                                         |            | -                | -                | 341.541    | -                        |
| Remarks                                                           |                        |                                                           |             |         |            |                                                                                                                        |            |              |            |                                                                           |            |                  |                  |            |                          |

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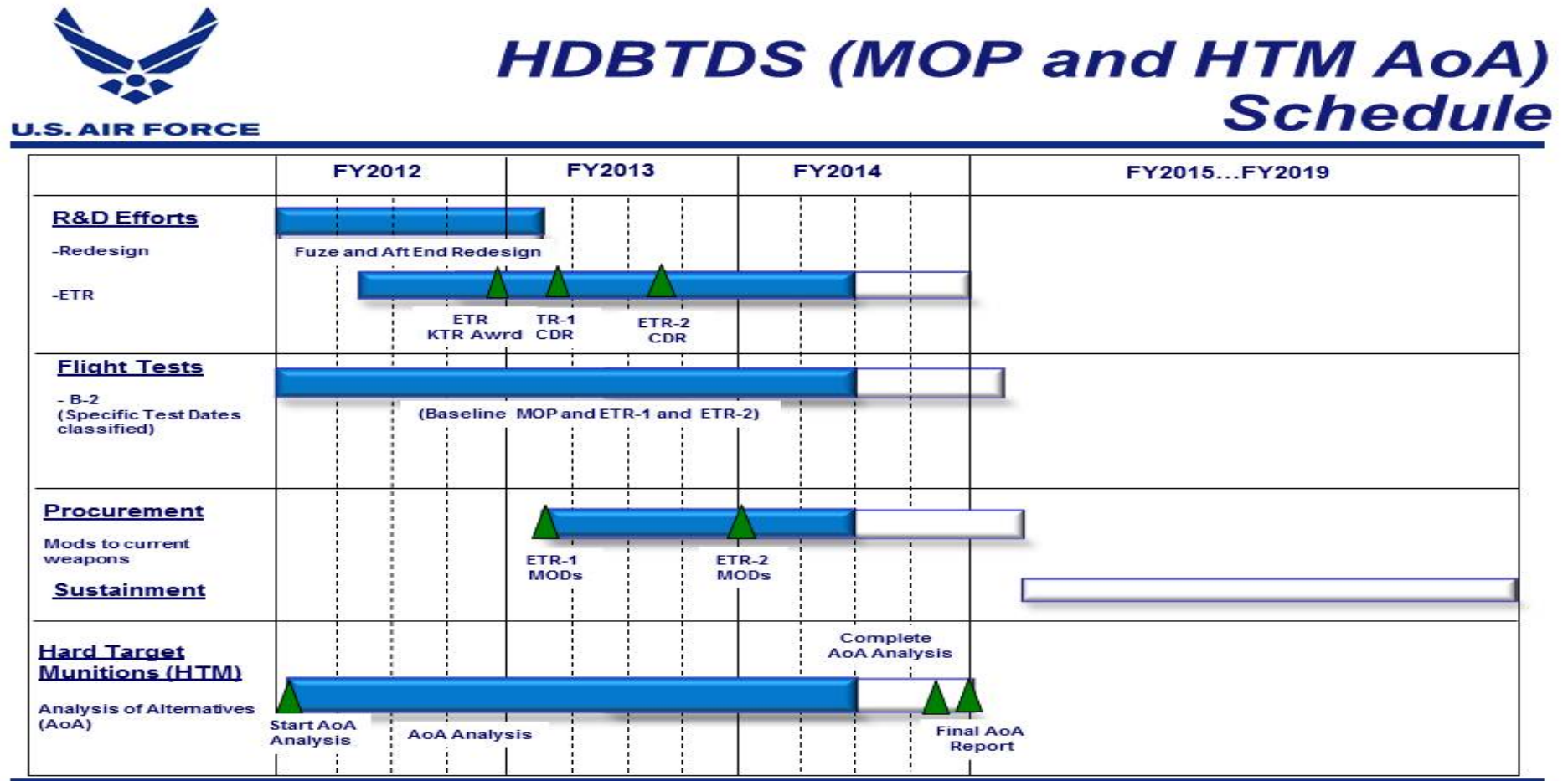
Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force

Date: March 2014

Appropriation/Budget Activity  
3600 / 4

R-1 Program Element (Number/Name)  
PE 0604327F / Hard and Deeply Buried  
Target Defeat System (HDBTDS) Program

Project (Number/Name)  
645341 / Direct Strike Penetrator Systems



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|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------|
| <b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Air Force |                                                                                                                               |                                                                                  | <b>Date:</b> March 2014 |
| <b>Appropriation/Budget Activity</b><br>3600 / 4                   | <b>R-1 Program Element (Number/Name)</b><br>PE 0604327F / <i>Hard and Deeply Buried Target Defeat System (HDBTDS) Program</i> | <b>Project (Number/Name)</b><br>645341 / <i>Direct Strike Penetrator Systems</i> |                         |

**Schedule Details**

| <b>Events</b>                                                      | <b>Start</b>   |             | <b>End</b>     |             |
|--------------------------------------------------------------------|----------------|-------------|----------------|-------------|
|                                                                    | <b>Quarter</b> | <b>Year</b> | <b>Quarter</b> | <b>Year</b> |
| MOP Design Modification & Qualification Testing for ETR-1          | 1              | 2013        | 2              | 2013        |
| MOP Design Modification & Qualification Testing for ETR-2          | 1              | 2014        | 1              | 2015        |
| MOP ETR-1 Flight Testing                                           | 3              | 2013        | 3              | 2013        |
| MOP ETR-2 Flight Testing                                           | 3              | 2014        | 1              | 2015        |
| Conduct Hard Target Munitions (HTM) Analysis of Alternatives (AoA) | 1              | 2013        | 3              | 2014        |
| Complete Hard Target Munitions (HTM) AoA Report                    | 3              | 2014        | 4              | 2014        |