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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 7: Operational Systems Development |             |         |         |              | R-1 Program Element (Number/Name)<br>PE 0408011F / Special Tactics / Combat Control |               |         |         |         |                  |                  |            |
| COST (\$ in Millions)                                                                                                              | Prior Years | FY 2013 | FY 2014 | FY 2015 Base | FY 2015 OCO #                                                                       | FY 2015 Total | FY 2016 | FY 2017 | FY 2018 | FY 2019          | Cost To Complete | Total Cost |
| Total Program Element                                                                                                              | -           | 4.461   | 6.174   | 8.405        | -                                                                                   | 8.405         | 8.275   | 7.953   | 8.109   | 8.263            | Continuing       | Continuing |
| 675138: ST System Development                                                                                                      | -           | 4.461   | 6.174   | 8.405        | -                                                                                   | 8.405         | 8.275   | 7.953   | 8.109   | 8.263            | Continuing       | Continuing |
| Quantity of RDT&E Articles                                                                                                         | -           | -       | -       | -            | -                                                                                   | -             | -       | -       | -       | -                |                  |            |

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

## **A. Mission Description and Budget Item Justification**

The Special Tactics/Combat Control, Special Tactics (ST) System Development project focuses on modernization developments for the Battlefield Airmen Operations (BAO) Kit. The project is a program within the overarching Battlefield Airmen Modernization (BA-Mod) Program. BAO Kit will develop, test, train and modernize the existing and future Family of Systems (FoS) that provides a state-of-the-art Command, Control, Communications, Computer, Intelligence, Surveillance and Reconnaissance (C4ISR) suite for Air Force Special Operations Command's (AFSOC's) Battlefield Airmen. Efforts in the Special Tactics System Development project focus on reducing the risk of fratricide and substantially reducing size and weight of the equipment carried through three core capabilities: Human Machine Interface (HMI), Line of Sight (LOS) targeting, and Machine to Machine C4ISR System.

This program will develop and enhance technologies for Battlefield Airmen Special Tactics Operators (STO)/Combat Controllers (CCT) to recognize, identify, range, nominate and designate targets during both day and night. BAO Kit will also significantly reduce the time required to find, fix, track, target and engage the enemy by providing highly accurate target grid coordinates in three dimensions, generating target imagery both pre and post-strike, and transmitting target data to Command and Control centers. All BAO Kit systems are light, compact and portable for use by dismounted Battlefield Airmen. FY15 BAO Kit funding will provide significant improvements in operational capability, situational awareness and precision lethality in the battle space and continue to build and enhance the BAO Kit family of systems. These efforts will deliver enhanced capability for the dismounted soldier in terms of dramatic weight reduction and increased mission effectiveness across the conflict spectrum.

The Special Tactics (ST) System Development activities also include studies and analysis to support both current and future program planning and execution.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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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 7:<br>Operational Systems Development                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  | R-1 Program Element (Number/Name)<br>PE 0408011F I Special Tactics / Combat Control |         |                  |             |               |
| B. Program Change Summary (\$ in Millions)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | FY 2013                                                                             | FY 2014 | FY 2015 Base     | FY 2015 OCO | FY 2015 Total |
| Previous President's Budget                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | 4.984                                                                               | 6.213   | 8.509            | -           | 8.509         |
| Current President's Budget                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | 4.461                                                                               | 6.174   | 8.405            | -           | 8.405         |
| Total Adjustments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | -0.523                                                                              | -0.039  | -0.104           | -           | -0.104        |
| • Congressional General Reductions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | -0.007                                                                              | -0.039  |                  |             |               |
| • Congressional Directed Reductions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | -                                                                                   | -       |                  |             |               |
| • Congressional Rescissions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | -                                                                                   | -       |                  |             |               |
| • Congressional Adds                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  | -                                                                                   | -       |                  |             |               |
| • Congressional Directed Transfers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | -                                                                                   | -       |                  |             |               |
| • Reprogrammings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | -                                                                                   | -       |                  |             |               |
| • SBIR/STTR Transfer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  | -0.106                                                                              | -       |                  |             |               |
| • Other Adjustments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | -0.410                                                                              | -       | -0.104           | -           | -0.104        |
| Change Summary Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                                                                     |         |                  |             |               |
| In FY13 program reductions of \$410K were due to Sequestration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                     |         |                  |             |               |
| C. Accomplishments/Planned Programs (\$ in Millions)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                     |         | FY 2013          | FY 2014     | FY 2015       |
| Title: Human Machine Interface                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                     |         | 2.214            | 4.674       | 3.159         |
| Description: BAO Kit is a family of systems that provides integrated operator interface between all the machine components by using unified visual and auditory displays and controls, such as head-mounted displays, tactical earplug connectivity with man pack or handheld communications, integrated tactical computing solution and power generation and management systems.                                                                                                                                                                                                                                                                                 |  |                                                                                     |         |                  |             |               |
| FY 2013 Accomplishments:<br>Developed six prototype fuel cell for power generation of HMI systems through advancement and testing of universal batteries drastically reducing weight; increase longevity and effectiveness for the entire suite of electronics within the BAO kit versus legacy batteries and charging systems through incorporating test feedback into subsequent iterations of the universal battery to further decrease system complexity, and simplify use by incorporating intelligent power regulation and integrating low profile cabling. 300 tactical computers have been delivered and are currently being used in overseas operations. |  |                                                                                     |         |                  |             |               |
| FY 2014 Plans:<br>Continue to develop/test special tactics integrated combat system. System development will enhance combat situational awareness and precision lethality in the battle space. Combines heads up display, increased audio capabilities and integrated tactical system for combat effects. Development of alternative energy and power capabilities to support special tactics mission sets and mission durations.                                                                                                                                                                                                                                 |  |                                                                                     |         |                  |             |               |
| FY 2015 Plans:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                     |         |                  |             |               |

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| <b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Air Force                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | <b>Date:</b> March 2014                                                                           |                |                |
| <b>Appropriation/Budget Activity</b><br>3600: <i>Research, Development, Test &amp; Evaluation, Air Force / BA 7: Operational Systems Development</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | <b>R-1 Program Element (Number/Name)</b><br>PE 0408011F / <i>Special Tactics / Combat Control</i> |                |                |
| <b>C. Accomplishments/Planned Programs (\$ in Millions)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | <b>FY 2013</b>                                                                                    | <b>FY 2014</b> | <b>FY 2015</b> |
| Will continue to develop/test special tactics integrated combat system. System development will enhance combat situational awareness and precision lethality in the battle space. Combines heads up display, increased audio capabilities and integrated tactical system for combat effects. Development of alternative energy and power capabilities to support special tactics mission sets and mission durations. Industry has evolved in CY13 and will continue through CY15 with more robust solutions while decreasing size and weight allowing the dismounted operator more capability in the battle space. Handheld Link-16 receiver/transmitter will be a focus for the dismounted operator and interaction with next generation aircraft. Capability will align in the digitally aided combat air support operations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                                                                                                   |                |                |
| <b>Title:</b> Line of Sight<br><br><b>Description:</b> Line of Sight-Short targeting enables the ST Battlefield Airmen to find, fix, track, target and engage the enemy at close range during day or night operations by providing highly accurate target coordinates in three dimensions and generates vital imagery both pre and post-strike at a fraction of the weight and more efficiently than legacy equipment carried by the operator.<br><br><b>FY 2013 Accomplishments:</b><br>Developed and tested Line of Sight material solution for detection of enemy forces. Integration testing continues to be added to modify system refinements.<br><br><b>FY 2014 Plans:</b><br>Continue development and enhancement of a three in one target/geo-locate/designate capability for dismounted operations. Enhanced capability will increase capability in the battle space while decreasing 27+ lbs. to ground forces.<br><br><b>FY 2015 Plans:</b><br>Will continue development and enhancement of a three in one target/geo-locate/designate capability for dismounted operations. Enhanced capability will increase capability in the battle space while decreasing 27+ lbs. to ground forces. Solution will have achieved IOC and focused on spiral enhancements for increased battle space capability. |  | 1.889                                                                                             | 1.250          | 2.787          |
| <b>Title:</b> Machine to Machine C4ISR System<br><br><b>Description:</b> Machine to Machine Command, Control, Communications and Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) provides the ST Battlefield Airmen the ability to find, fix, track, target and engage the enemy which greatly reduces the kill chain and drastically decreases the possibility of fratricide by enhancing the operators situational awareness on the battlefield.<br><br><b>FY 2013 Accomplishments:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | 0.358                                                                                             | 0.250          | 2.459          |

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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 / BA 7:<br>Operational Systems Development                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |         |         |                 | R-1 Program Element (Number/Name)<br>PE 0408011F / Special Tactics / Combat Control |                  |         |                  |         |         |                     |            |
| C. Accomplishments/Planned Programs (\$ in Millions)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |         |         |                 |                                                                                     |                  |         | FY 2013          | FY 2014 | FY 2015 |                     |            |
| Developed and tested material prototypes of machine to machine interface for C4ISR; enabling a reduced kill chain and will provide greater battlefield situational awareness while engaged with the enemy, reducing the possibility of fratricide. BAO Kit software release has been created, tested and fielded to operational units in supporting overseas contingency operations.<br><br><b>FY 2014 Plans:</b><br>Continue to develop and test material prototypes of machine to machine interface for C4ISR; enabling a reduced kill chain, speed of effects and will provide greater battlefield situational awareness while engaged with the enemy, reducing the possibility of fratricide. Critical data link capability in coordinating next generation aircraft in the digitally aided combat air support battle space.<br><br><b>FY 2015 Plans:</b><br>Will continue to develop and test material prototypes of machine to machine interface for C4ISR; enabling a reduced kill chain, speed of effects and will provide greater battlefield situational awareness while engaged with the enemy, reducing the possibility of fratricide. Critical data link capability in coordinating next generation aircraft in the digitally aided combat air support battle space. |         |         |                 |                                                                                     |                  |         |                  |         |         |                     |            |
| Accomplishments/Planned Programs Subtotals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |         |         |                 |                                                                                     |                  |         | 4.461            | 6.174   | 8.405   |                     |            |
| 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 |
| • OPAF: BA03: 837100:<br>Tactical C-E Equipment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 10.933  | 14.465  | 16.648          | -                                                                                   | 16.648           | 15.644  | 16.170           | 16.456  | 16.750  | Continuing          | Continuing |
| Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |         |         |                 |                                                                                     |                  |         |                  |         |         |                     |            |
| E. Acquisition Strategy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |         |         |                 |                                                                                     |                  |         |                  |         |         |                     |            |
| The evolutionary acquisition strategy will focus on meeting immediate requirements with current technology while pursuing future increments for improved accuracy, increased vertical and horizontal integration, and reduced weight. Future increments will be incorporated as funding and technology allow.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |         |         |                 |                                                                                     |                  |         |                  |         |         |                     |            |
| 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-4, RDT&E Schedule Profile: PB 2015 Air Force**

**Date:** March 2014

**Appropriation/Budget Activity**  
3600 / 7

**R-1 Program Element (Number/Name)**  
PE 0408011F / *Special Tactics / Combat Control*

**Project (Number/Name)**  
675138 / *ST System Development*



# **BAO Kit Schedule**

|                                                                                                                                                                                                                                                      | FY13        | FY14 | FY15 | FY16 | FY17 | FY18 | FY19 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------|------|------|------|------|------|
| Human Machine Interface (HMI)                                                                                                                                                                                                                        | Development |      |      |      |      |      |      |
| Line of Sight (LOS)                                                                                                                                                                                                                                  | Development |      |      |      |      |      |      |
| Machine to Machine (M2M)                                                                                                                                                                                                                             | Development |      |      |      |      |      |      |
| <div>AoA: Analysis of Alternatives<br/>PDR: Preliminary Design Review</div> <div>CDR: Critical Design Review<br/>SDR: System Design Review</div> <div>IOT&amp;E: Initial Operational Test &amp; Evaluation<br/>SRR: System Requirements Review</div> |             |      |      |      |      |      |      |