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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2016 Air Force **Date:** February 2015

|  |  |
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| <b>Appropriation/Budget Activity</b><br>3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 7: Operational Systems Development</i> | <b>R-1 Program Element (Number/Name)</b><br>PE 0305145F / <i>Arms Control Implementation</i> |
|--|--|

| COST (\$ in Millions)                    | Prior Years | FY 2014 | FY 2015 | FY 2016 Base | FY 2016 OCO | FY 2016 Total | FY 2017 | FY 2018 | FY 2019 | FY 2020 | Cost To Complete | Total Cost |
|--|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element                    | -           | 1.430   | 13.222  | 12.137       | -           | 12.137        | 4.892   | -       | -       | -       | Continuing       | Continuing |
| 675063: <i>OC-135 Open Skies Sensors</i> | -           | 1.430   | 13.222  | 12.137       | -           | 12.137        | 4.892   | -       | -       | -       | Continuing       | Continuing |

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

This budget line funds the Strategic Stability and CWMD Policy Division (AF/A10-S) Mission which develops future national security strategy concepts including those involving space systems, nuclear weapons and other strategic and high consequence capabilities. Directs, integrates and synchronizes advances in USAF capability to counter Weapons of Mass Destruction. Focal point for USAF arms control policy, implementation and compliance with international treaties and agreements, diplomatic clearances and airspace/aircraft sovereignty issues. Defines and defends the USAF role in ballistic missile defense. Represents USAF in international, interagency, DoD, Joint, inter-Service, COCOM and MAJCOM forums and implementation groups on matters involving national security policy and strategy.

Open Skies Sensors - This budget line funds upgrades to the sensors aboard the OC-135B Open Skies aircraft used for the Treaty on Open Skies observation flights. The Open Skies Treaty allows signatories to conduct observation flights over each other's territory using fixed-wing, unarmed observation aircraft. Mission equipment on the OC-135B includes wet film optical framing and panoramic cameras. Open Skies Sensors program addresses the requirements in the Presidential Policy Directive-15 (PPD-15), which states, "The United States shall begin budgeting no later than FY14 to upgrade the sensors on the current aircraft by replacing film-based cameras with available electro-optical sensors. (U)" Additionally, current cameras are nearly obsolete, unreliable, hard and increasingly expensive to maintain, and repair parts must be individually manufactured. In addition, the web film manufacturers are discontinuing production of the film stock.

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.

| <b>B. Program Change Summary (\$ in Millions)</b> | <b>FY 2014</b> | <b>FY 2015</b> | <b>FY 2016 Base</b> | <b>FY 2016 OCO</b> | <b>FY 2016 Total</b> |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget                       | 1.430          | 13.222         | 8.569               | -                  | 8.569                |
| Current President's Budget                        | 1.430          | 13.222         | 12.137              | -                  | 12.137               |
| Total Adjustments                                 | -              | -              | 3.568               | -                  | 3.568                |
| • Congressional General Reductions                | -              | -              |                     |                    |                      |
| • Congressional Directed Reductions               | -              | -              |                     |                    |                      |
| • Congressional Rescissions                       | -              | -              |                     |                    |                      |
| • Congressional Adds                              | -              | -              |                     |                    |                      |
| • Congressional Directed Transfers                | -              | -              |                     |                    |                      |
| • Reprogrammings                                  | -              | -              |                     |                    |                      |
| • SBIR/STTR Transfer                              | -              | -              |                     |                    |                      |
| • Other Adjustments                               | -              | -              | 3.568               | -                  | 3.568                |

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| <b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2016 Air Force   |  | <b>Date:</b> February 2015 |
| <b>Appropriation/Budget Activity</b><br>3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 7:<br/>Operational Systems Development</i> | <b>R-1 Program Element (Number/Name)</b><br>PE 0305145F / <i>Arms Control Implementation</i> |                            |

**Change Summary Explanation**

FY16 funding increased based on updated program office estimate to ensure full funding of program

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|   |                    |                |                |                     |  |                      |                |                |   |                            |                         |                   |
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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2016 Air Force |                    |                |                |                     |  |                      |                |                |   | <b>Date:</b> February 2015 |                         |                   |
| <b>Appropriation/Budget Activity</b><br>3600 / 7                        |                    |                |                |                     | <b>R-1 Program Element (Number/Name)</b><br>PE 0305145F / <i>Arms Control Implementation</i> |                      |                |                | <b>Project (Number/Name)</b><br>675063 / <i>OC-135 Open Skies Sensors</i> |                            |                         |                   |
| <b>COST (\$ in Millions)</b>  | <b>Prior Years</b> | <b>FY 2014</b> | <b>FY 2015</b> | <b>FY 2016 Base</b> | <b>FY 2016 OCO</b>   | <b>FY 2016 Total</b> | <b>FY 2017</b> | <b>FY 2018</b> | <b>FY 2019</b>  | <b>FY 2020</b>             | <b>Cost To Complete</b> | <b>Total Cost</b> |
| 675063: <i>OC-135 Open Skies Sensors</i>                                | -                  | 1.430          | 13.222         | 12.137              | -  | 12.137               | 4.892          | -              | -   | -                          | Continuing              | Continuing        |
| Quantity of RDT&E Articles  | -                  | -              | -              | -                   | -  | -                    | -              | -              | -   | -                          |                         |                   |

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

The OC-135B aircraft supports the implementation of the United States Government (USG) Open Skies Treaty. This program addresses the requirements in the Presidential Policy Directive-15 (PPD-15). The Open Skies Treaty allows signatories to conduct observation flights over each other's territory using fixed-wing, unarmed observation aircraft. The aircraft can use optical cameras, video cameras, sideways-looking synthetic aperture radar, and infrared line scanning devices. There are 34 participating states to the Open Skies Treaty. The Air Force is required to allow over flight of USAF bases per multilateral request; to acquire, operate, and maintain the aircraft and equipment utilized during over flights of partner countries; to provide required sensor media and initial media processing; and to provide airfield servicing, logistics, and maintenance for foreign over flights of the US.

Open Skies Sensors - Mission equipment on the OC-135B includes wet film optical framing and panoramic cameras. Open Skies Sensors program addresses the requirements in the Presidential Policy Directive-15 (PPD-15), which states, "The United States shall begin budgeting no later than FY14 to upgrade the sensors on the current aircraft by replacing film-based cameras with available electro-optical sensors. (U)" Additionally, current cameras are nearly obsolete, unreliable, hard and increasingly expensive to maintain, and repair parts must be individually manufactured. In addition, the web film manufacturers are discontinuing production of the film stock. Furthermore, the ultimate imagery product customer desires digital format products. This camera replacement program will replace the wet film cameras with modern, digital cameras. Modern, digital cameras will be more reliable, maintainable and cost effective. The customer will be able to more readily use the imagery products. Equipment service life will be extended significantly.

Test articles will be procured for the purpose of developmental testing and to support Treaty certification of the sensors.

**B. Accomplishments/Planned Programs (\$ in Millions)**

|  | <b>FY 2014</b> | <b>FY 2015</b> | <b>FY 2016</b> |
|--|----------------|----------------|----------------|
| <b>Title:</b> Open Skies Sensors   | 1.430          | 13.222         | 12.137         |
| <b>Description:</b> Replace existing Open Skies aircraft wet film sensors with digital sensors.          |                |                |                |
| <b>FY 2014 Accomplishments:</b><br>Developed requirements for the new digital camera system.             |                |                |                |
| <b>FY 2015 Plans:</b><br>Conduct research supporting design and intergration of the new digital cameras. |                |                |                |
| <b>FY 2016 Plans:</b>  |                |                |                |

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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2016 Air Force |  | <b>Date:</b> February 2015  |
| <b>Appropriation/Budget Activity</b><br>3600 / 7                        | <b>R-1 Program Element (Number/Name)</b><br>PE 0305145F / <i>Arms Control Implementation</i> | <b>Project (Number/Name)</b><br>675063 / <i>OC-135 Open Skies Sensors</i> |

|   |                |                |                |
|---|----------------|----------------|----------------|
| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b> | <b>FY 2014</b> | <b>FY 2015</b> | <b>FY 2016</b> |
| Procure and install prototype sensor system.                |                |                |                |
| <b>Accomplishments/Planned Programs Subtotals</b>           | 1.430          | 13.222         | 12.137         |

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

| <u>Line Item</u>                                   | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016 Base</u> | <u>FY 2016 OCO</u> | <u>FY 2016 Total</u> | <u>FY 2017</u> | <u>FY 2018</u> | <u>FY 2019</u> | <u>FY 2020</u> | <u>Cost To Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|---------------------|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| • APAF:BA05: Line Item<br>#1900: <i>Open Skies</i> | -              | -              | -                   | -                  | -                    | 4.537          | 5.015          | 5.109          | 5.201          | -                       | 19.952            |

**Remarks**

**D. Acquisition Strategy**

Compete the development and integration of a new digital camera system on the OC-135B and update the Open Skies Medial Processing Facility (OSMPF).

**E. Performance Metrics**

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force                            |                        |                                |             |   |            |         |            |                                    |            |             |            | Date: February 2015 |                  |            |                          |
|--|------------------------|--------------------------------|-------------|---|------------|---------|------------|------------------------------------|------------|-------------|------------|---------------------|------------------|------------|--------------------------|
| Appropriation/Budget Activity  |                        |                                |             | R-1 Program Element (Number/Name)         |            |         |            | Project (Number/Name)              |            |             |            |                     |                  |            |                          |
| 3600 / 7   |                        |                                |             | PE 0305145F / Arms Control Implementation |            |         |            | 675063 / OC-135 Open Skies Sensors |            |             |            |                     |                  |            |                          |
| Product Development (\$ in Millions)   |                        |                                |             | FY 2014                                   |            | FY 2015 |            | FY 2016 Base                       |            | FY 2016 OCO |            | FY 2016 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 |
| Open Skies Sensors Engineering, Development and Prototype Subtotal Product Development | C/FFP                  | Various : Various,             | -           | -   |            | 12.704  | Aug 2015   | 10.707                             |            | -           |            | 10.707              | Continuing       | Continuing | 23.985                   |
| <b>Subtotal</b>  |                        |                                | -           | -   |            | 12.704  |            | 10.707                             |            | -           |            | 10.707              | -                | -          | 23.985                   |
| Support (\$ in Millions)   |                        |                                |             | FY 2014                                   |            | FY 2015 |            | FY 2016 Base                       |            | FY 2016 OCO |            | FY 2016 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 |
| Sub Total Support  | Various                | Various : Various,             | -           | 1.408                                     | Sep 2014   | 0.364   |            | 0.696                              |            | -           |            | 0.696               | Continuing       | Continuing | 3.202                    |
| <b>Subtotal</b>  |                        |                                | -           | 1.408                                     |            | 0.364   |            | 0.696                              |            | -           |            | 0.696               | -                | -          | 3.202                    |
| Test and Evaluation (\$ in Millions)   |                        |                                |             | FY 2014                                   |            | FY 2015 |            | FY 2016 Base                       |            | FY 2016 OCO |            | FY 2016 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 |
| Open Skies Sensor development ground and flight testing for imagery collection         | PO                     | Various : Various,             | -           | -   |            | -       |            | 0.685                              |            | -           |            | 0.685               | Continuing       | Continuing | 4.219                    |
| <b>Subtotal</b>  |                        |                                | -           | -   |            | -       |            | 0.685                              |            | -           |            | 0.685               | -                | -          | 4.219                    |
| Management Services (\$ in Millions)   |                        |                                |             | FY 2014                                   |            | FY 2015 |            | FY 2016 Base                       |            | FY 2016 OCO |            | FY 2016 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 |
| Open Skies Sensors PMA SubTotal Management Services                                    | Various                | Various : Various,             | -           | 0.022                                     | Sep 2014   | 0.154   | Sep 2015   | 0.049                              |            | -           |            | 0.049               | Continuing       | Continuing | 0.275                    |
| <b>Subtotal</b>  |                        |                                | -           | 0.022                                     |            | 0.154   |            | 0.049                              |            | -           |            | 0.049               | -                | -          | 0.275                    |

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| <b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2016 Air Force |                    |                |                |  |                     |                    |                      | <b>Date:</b> February 2015  |                   |                                 |  |
| <b>Appropriation/Budget Activity</b><br>3600 / 7                       |                    |                |                | <b>R-1 Program Element (Number/Name)</b><br>PE 0305145F / <i>Arms Control Implementation</i> |                     |                    |                      | <b>Project (Number/Name)</b><br>675063 / <i>OC-135 Open Skies Sensors</i> |                   |                                 |  |
|  | <b>Prior Years</b> | <b>FY 2014</b> | <b>FY 2015</b> |  | <b>FY 2016 Base</b> | <b>FY 2016 OCO</b> | <b>FY 2016 Total</b> | <b>Cost To Complete</b>   | <b>Total Cost</b> | <b>Target Value of Contract</b> |  |
| <b>Project Cost Totals</b>   | -                  | 1.430          | 13.222         |  | 12.137              | -                  | 12.137               | -   | -                 | 31.681                          |  |

**Remarks**

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| <b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2016 Air Force |  | <b>Date:</b> February 2015  |
| <b>Appropriation/Budget Activity</b><br>3600 / 7                  | <b>R-1 Program Element (Number/Name)</b><br>PE 0305145F / <i>Arms Control Implementation</i> | <b>Project (Number/Name)</b><br>675063 / <i>OC-135 Open Skies Sensors</i> |

|                                | FY 2014 |   |   |   | FY 2015 |   |   |   | FY 2016 |   |   |   | FY 2017 |   |   |   | FY 2018 |   |   |   | FY 2019 |   |   |   | FY 2020 |   |   |   |
|--------------------------------|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
|                                | 1       | 2 | 3 | 4 | 1       | 2 | 3 | 4 | 1       | 2 | 3 | 4 | 1       | 2 | 3 | 4 | 1       | 2 | 3 | 4 | 1       | 2 | 3 | 4 | 1       | 2 | 3 | 4 |
| Milestone B                    |         |   |   |   |         |   |   | ■ |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Contract Award                 |         |   |   |   |         |   |   | ■ |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Critical Design Review         |         |   |   |   |         |   |   |   |         |   |   | ■ |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Test/Certification             |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   | ■ |         |   |   |   |         |   |   |   |         |   |   |   |
| Milestone C                    |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   | ■ |         |   |   |   |         |   |   |   |
| Initial Operational Capability |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   | ■ |         |   |   |   |         |   |   |   |
| Final Operational Capability   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   | ■ |

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| <b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2016 Air Force |  | <b>Date:</b> February 2015  |
| <b>Appropriation/Budget Activity</b><br>3600 / 7                   | <b>R-1 Program Element (Number/Name)</b><br>PE 0305145F / <i>Arms Control Implementation</i> | <b>Project (Number/Name)</b><br>675063 / <i>OC-135 Open Skies Sensors</i> |

Schedule Details

| Events                         | Start   |      | End     |      |
|--------------------------------|---------|------|---------|------|
|                                | Quarter | Year | Quarter | Year |
| Milestone B                    | 4       | 2015 | 4       | 2015 |
| Contract Award                 | 4       | 2015 | 4       | 2015 |
| Critical Design Review         | 4       | 2016 | 4       | 2016 |
| Test/Certification             | 4       | 2017 | 4       | 2018 |
| Milestone C                    | 4       | 2018 | 4       | 2018 |
| Initial Operational Capability | 4       | 2018 | 4       | 2018 |
| Final Operational Capability   | 4       | 2019 | 4       | 2019 |