

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Air Force** **Date:** February 2016

|  |   |
|--|---|
| <b>Appropriation/Budget Activity</b><br>3600: Research, Development, Test & Evaluation, Air Force I BA 7:<br>Operational Systems Development | <b>R-1 Program Element (Number/Name)</b><br>PE 0401314F I Operational Support Airlift |
|--|---|

| COST (\$ in Millions)                        | Prior Years | FY 2015 | FY 2016 | FY 2017 Base | FY 2017 OCO | FY 2017 Total | FY 2018 | FY 2019 | FY 2020 | FY 2021 | Cost To Complete | Total Cost |
|--|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element                        | 0.000       | 27.783  | 46.453  | 13.817       | 0.000       | 13.817        | 6.662   | 0.000   | 0.000   | 0.000   | 0.000            | 94.715     |
| 676024: VC-25 Avionics Modernization Program | 0.000       | 27.783  | 46.453  | 13.817       | 0.000       | 13.817        | 6.662   | 0.000   | 0.000   | 0.000   | 0.000            | 94.715     |
| Quantity of RDT&E Articles                   | -           | -       | -       | -            | -           | -             | -       | -       | -       | -       |                  |            |

**Program MDAP/MAIS Code:** 425

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

VC-25A Avionics Modernization Program (AMP) assures unrestricted global access to civilian and military airspace to support the President of the United States as Head of State, Chief Executive, and Commander in Chief. AMP upgrades use a systems approach to aid pilot awareness and alleviate task saturation enhancing safety in a high technology concentrated airspace environment. VC-25A AMP is a required modification to ensure the viability of the Presidential support airlift fleet until the Presidential Aircraft Recapitalization (PAR) program is fielded.

AMP complies with mandates for civil Automatic Dependent Surveillance-Broadcast (ADS-B) Out and Identification Friend or Foe (IFF) Mode 5 and provides an improved Advisory Vertical Navigation (VNAV) capability. It will incorporate multiple subsystems, to include, but not limited to, maneuver camera system, large cockpit displays, and navigation radios to increase the utility and safety of the VC-25A. Provisions for the military ADS-B Out will also be provided. Installations are aligned with the aircraft heavy maintenance schedule.

**B. Program Change Summary (\$ in Millions)**

|                                     | <u>FY 2015</u> | <u>FY 2016</u> | <u>FY 2017 Base</u> | <u>FY 2017 OCO</u> | <u>FY 2017 Total</u> |
|-------------------------------------|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget         | 27.784         | 48.453         | 16.155              | 0.000              | 16.155               |
| Current President's Budget          | 27.783         | 46.453         | 13.817              | 0.000              | 13.817               |
| Total Adjustments                   | -0.001         | -2.000         | -2.338              | 0.000              | -2.338               |
| • Congressional General Reductions  | 0.000          | 0.000          |                     |                    |                      |
| • Congressional Directed Reductions | 0.000          | -2.000         |                     |                    |                      |
| • Congressional Rescissions         | 0.000          | 0.000          |                     |                    |                      |
| • Congressional Adds                | 0.000          | 0.000          |                     |                    |                      |
| • Congressional Directed Transfers  | 0.000          | 0.000          |                     |                    |                      |
| • Reprogrammings                    | 0.000          | 0.000          |                     |                    |                      |
| • SBIR/STTR Transfer                | 0.000          | 0.000          |                     |                    |                      |
| • Other Adjustments                 | -0.001         | 0.000          | -2.338              | 0.000              | -2.338               |

**Change Summary Explanation**

The FY2016 funding was reduced by \$2 million due to a Congressionally directed reduction for forward financing.

**UNCLASSIFIED**

|  |                            |
|--|----------------------------|
| <b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2017 Air Force | <b>Date:</b> February 2016 |
|--|----------------------------|

|  |  |
|--|--|
| <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 0401314F / <i>Operational Support Airlift</i> |
|--|--|

The FY 2017 funding request was reduced by \$2.338 million to account for the updated Heavy Maintenance schedule.

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

|  | FY 2015 | FY 2016 | FY 2017 |
|--|---------|---------|---------|
| <b>Title:</b> Design and Test  | 27.783  | 46.453  | 13.817  |
| <b>Description:</b> Design and Test efforts included stand-up of a Systems Integration Laboratory (SIL), non-recurring engineering, material buys for the SIL, as well as design, test and evaluation, and installation of the avionics systems. All modifications to be performed on the aircraft must be proven on the ground prior to installation. |         |         |         |
| <b>FY 2015 Accomplishments:</b><br>Funding was used for continuing non-recurring engineering, material buys and Critical Design Review (CDR). SIL engineering and test continued for Flight Management System (FMS) software.  |         |         |         |
| <b>FY 2016 Plans:</b><br>Funding will be used for material buys, Install kit, Ground Test and Flight Test.   |         |         |         |
| <b>FY 2017 Plans:</b><br>Funding will be used for Installation, Ground Test and Flight Test.   |         |         |         |
| <b>Accomplishments/Planned Programs Subtotals</b>  | 27.783  | 46.453  | 13.817  |

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

| <u>Line Item</u>                           | <u>FY 2015</u> | <u>FY 2016</u> | <u>FY 2017</u><br><u>Base</u> | <u>FY 2017</u><br><u>OCO</u> | <u>FY 2017</u><br><u>Total</u> | <u>FY 2018</u> | <u>FY 2019</u> | <u>FY 2020</u> | <u>FY 2021</u> | <u>Cost To</u><br><u>Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • APAF: BA05: Line<br>Item #C02500: VC-25A | 0.000          | 0.000          | 0.000                         | 0.000                        | 0.000                          | 26.730         | 0.000          | 0.000          | 0.000          | 0.000                             | 145.039           |

**Remarks**

**E. Acquisition Strategy**

VC-25A AMP is accomplished by developmental integration of commercial off-the-shelf systems, hardware procurement and installation is accomplished to align with heavy maintenance depot schedules. An Undefinitized Contract Action (UCA) was issued in Jun 12. The UCA was definitized with a Cost Plus Incentive Fee (CPIF) type contract April 2014. The CPIF contract covers the engineering RDT&E effort through Critical Design Review in FY15. The remaining RDT&E effort including the first kit, install and flight test was awarded in FY15 and concludes in FY18 with delivery of the first aircraft.

**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.

**UNCLASSIFIED**

**Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Air Force** **Date:** February 2016

|  |  |  |
|--|--|--|
| <b>Appropriation/Budget Activity</b><br>3600 / 7 | <b>R-1 Program Element (Number/Name)</b><br>PE 0401314F / <i>Operational Support Airlift</i> | <b>Project (Number/Name)</b><br>676024 / <i>VC-25 Avionics Modernization Program</i> |
|--|--|--|

| <b>Product Development (\$ in Millions)</b> |                        |                                 |             | FY 2015 |            | FY 2016 |            | FY 2017 Base |            | FY 2017 OCO |            | FY 2017 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|---------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item                          | Contract Method & Type | Performing Activity & Location  | Prior Years | Cost    | Award Date | Cost    | Award Date | Cost         | Award Date | Cost        | Award Date | Cost          |                  |            |                          |
| VC-25 AMP Engineering                       | SS/CPIF                | Oklahoma City : Tinker, AFB, OK | 0.000       | 26.783  | Feb 2015   | 45.453  | Feb 2016   | 12.817       | Feb 2017   | 0.000       |            | 12.817        | 0.000            | 85.053     | -                        |
| <b>Subtotal</b>                             |                        |                                 | 0.000       | 26.783  |            | 45.453  |            | 12.817       |            | 0.000       |            | 12.817        | 0.000            | 85.053     | -                        |

| <b>Support (\$ in Millions)</b> |                        |                                |             | FY 2015 |            | FY 2016 |            | FY 2017 Base |            | FY 2017 OCO |            | FY 2017 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---------------------------------|------------------------|--------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item              | Contract Method & Type | Performing Activity & Location | Prior Years | Cost    | Award Date | Cost    | Award Date | Cost         | Award Date | Cost        | Award Date | Cost          |                  |            |                          |
| <b>Subtotal</b>                 |                        |                                | -           | -       |            | -       |            | -            |            | -           |            | -             | -                | -          | -                        |

| <b>Test and Evaluation (\$ in Millions)</b> |                        |                                |             | FY 2015 |            | FY 2016 |            | FY 2017 Base |            | FY 2017 OCO |            | FY 2017 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item                          | Contract Method & Type | Performing Activity & Location | Prior Years | Cost    | Award Date | Cost    | Award Date | Cost         | Award Date | Cost        | Award Date | Cost          |                  |            |                          |
| <b>Subtotal</b>                             |                        |                                | -           | -       |            | -       |            | -            |            | -           |            | -             | -                | -          | -                        |

| <b>Management Services (\$ in Millions)</b> |                        |                                |             | FY 2015 |            | FY 2016 |            | FY 2017 Base |            | FY 2017 OCO |            | FY 2017 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item                          | Contract Method & Type | Performing Activity & Location | Prior Years | Cost    | Award Date | Cost    | Award Date | Cost         | Award Date | Cost        | Award Date | Cost          |                  |            |                          |
| VC-25 AMP Program Management Activities     | SS/CPIF                | OC-ALC : Oklahoma City, OK     | 0.000       | 1.000   | Jan 2015   | 1.000   | Jan 2016   | 1.000        | Jan 2017   | 0.000       |            | 1.000         | 0.000            | 3.000      | -                        |
| <b>Subtotal</b>                             |                        |                                | 0.000       | 1.000   |            | 1.000   |            | 1.000        |            | 0.000       |            | 1.000         | 0.000            | 3.000      | -                        |

|                            |  |  | Prior Years | FY 2015 |  | FY 2016 |  | FY 2017 Base |  | FY 2017 OCO |  | FY 2017 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|--|--|-------------|---------|--|---------|--|--------------|--|-------------|--|---------------|------------------|------------|--------------------------|
| <b>Project Cost Totals</b> |  |  | 0.000       | 27.783  |  | 46.453  |  | 13.817       |  | 0.000       |  | 13.817        | 0.000            | 88.053     | -                        |

**Remarks**

**UNCLASSIFIED**

|   |  |  |
|---|--|--|
| <b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2017 Air Force</b> |  | <b>Date:</b> February 2016   |
| <b>Appropriation/Budget Activity</b><br>3600 / 7                  | <b>R-1 Program Element (Number/Name)</b><br>PE 0401314F / <i>Operational Support Airlift</i> | <b>Project (Number/Name)</b><br>676024 / <i>VC-25 Avionics Modernization Program</i> |

|  | FY 2015    |   |    |            | FY 2016 |   |   |   | FY 2017              |   |   |   | FY 2018              |   |   |   | FY 2019 |   |   |   | FY 2020 |   |   |   | FY 2021 |   |   |   |
|--|------------|---|----|------------|---------|---|---|---|----------------------|---|---|---|----------------------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
|  | 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 |
| Systems Integration Laboratory engineering | ██████████ |   |    |            |         |   |   |   |                      |   |   |   |                      |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Critical Design Review                     |            |   | ██ |            |         |   |   |   |                      |   |   |   |                      |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Kit #1 Procurement                         |            |   |    | ██████████ |         |   |   |   |                      |   |   |   |                      |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Kit #1 Installation                        |            |   |    |            |         |   |   |   | ████████████████████ |   |   |   |                      |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |
| Test and Evaluation                        |            |   |    |            |         |   |   |   |                      |   |   |   | ████████████████████ |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |

**UNCLASSIFIED**

|  |  |  |
|--|--|--|
| <b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2017 Air Force |  | <b>Date:</b> February 2016   |
| <b>Appropriation/Budget Activity</b><br>3600 / 7                   | <b>R-1 Program Element (Number/Name)</b><br>PE 0401314F / <i>Operational Support Airlift</i> | <b>Project (Number/Name)</b><br>676024 / <i>VC-25 Avionics Modernization Program</i> |

Schedule Details

| Events                                     | Start   |      | End     |      |
|--|---------|------|---------|------|
|  | Quarter | Year | Quarter | Year |
| Systems Integration Laboratory engineering | 1       | 2015 | 2       | 2016 |
| Critical Design Review                     | 3       | 2015 | 3       | 2015 |
| Kit #1 Procurement                         | 4       | 2015 | 4       | 2016 |
| Kit #1 Installation                        | 1       | 2017 | 4       | 2018 |
| Test and Evaluation                        | 2       | 2017 | 4       | 2018 |

**UNCLASSIFIED**

**THIS PAGE INTENTIONALLY LEFT BLANK**

**UNCLASSIFIED**