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

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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 0207417F / <i>Airborne Warning and Control System (AWACS)</i> |
|--|--|

| 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  | -           | 172.785 | 131.812 | 86.644       | 0.000       | 86.644        | 121.067 | 89.372  | 86.625  | 77.143  | Continuing       | Continuing |
| 67411L: <i>Airborne Warning &amp; Control System (AWACS)</i> | -           | 172.785 | 131.812 | 86.644       | 0.000       | 86.644        | 121.067 | 89.372  | 86.625  | 77.143  | Continuing       | Continuing |
| Quantity of RDT&E Articles                                   | -           | -       | -       | -            | -           | -             | -       | -       | -       | -       |                  |            |

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

Mission: E-3 Airborne Warning and Control System (AWACS) is the premier airborne platform providing Battle management (BM)/Command and Control (C2) for Commander In Chief and combatant commander tasking in joint, allied, and coalition operations, humanitarian relief, and homeland defense. AWACS provides a real-time picture of friendly, neutral, and hostile air activity. Its capabilities include all-altitude/all-weather surveillance of the battle space; early warning of enemy actions; a real-time ability to find, fix, track, and assess airborne or maritime threats; and detection, location, and identification of electronic emitters.

1. E-3 DMS Replacement of Avionics for Global Operations and Navigation (DRAGON): DRAGON completes the Federal Aviation Administration (FAA), International Civil Aviation Organization (ICAO), and European Organization for the Safety of Air Navigation (EUROCONTROL) air traffic control mandated safety of flight capabilities. This program will provide the E-3 fleet with the flight instruments and other avionics for the Required Navigation Performance (RNP), and the surveillance and communication capabilities necessary to maintain continued critical unrestricted access to global airspace. Non-compliance will result in airspace restrictions and denials that will impact AWACS ability to support worldwide responses to situations requiring immediate on-scene BM/C2. DRAGON replaces the existing Diminishing Manufacturing Sources (DMS) Global Positioning System (GPS) Integrated Navigation System (GINS) with a modern Flight Management System (FMS) that will accommodate new capabilities including Mode 5 Identification Friend or Foe (IFF) and Joint Mission Planning System (JMPS). Also included as part of the modification is the addition of data link communications, voice and data link digital radios, improved visual displays, and competitive acquisition of DRAGON flight simulators. Emphasis on employment of Commercial-Off-The-Shelf (COTS) avionics is expected to lower cost, reduce the tech refresh cycle, and enhance life cycle management. DRAGON will provide development of support and test equipment needed for DRAGON production; DRAGON will also provide initial DMS and Initial Contractor Support (ICS) needed to support the first US developmental test aircraft (i.e., D-1) prior to the contract award of the DRAGON production effort. The Engineering and Manufacturing Development (EMD) phase of DRAGON is being executed as a Cooperative Program between the US and NATO.

2. E-3 Electronic Protection (EP): EP will provide improved radar processing in a specific flight environment to meet a classified requirement. Processing will initially address radar modes comprising 90% of operational AWACS radar usage. EP will install an adjunct processor that works in parallel with the current Radar System Improvement Program (RSIP) system. The EP-processed radar picture will appear on the battle manager's display in place of the current RSIP output when the EP radar modes are selected.

3. E-3 Training, Support, and Infrastructure (TSI): TSI provides continuing management support for AWACS modernization and enhancement. These activities include managing the AWACS Development Test and Evaluation (DT&E) and Production infrastructure and tracking and monitoring the AWACS vendor's core mission and aircrew training, support equipment and program Government Furnished Property. The overall DT&E test infrastructure supports development, production, and

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| <p>sustainment projects and maintains facilities to support AWACS aircraft during system and sub-system testing at Boeing Field, WA, Baltimore, MD, and Oklahoma City, OK. Funding is shared between Research, Development, Test, and Evaluation (RDT&amp;E) and production funds. The TSI assets also support multiple international Airborne Early Warning and Control (AEW&amp;C) projects on a maintenance fee basis, not limited to projects for France, Saudi Arabia, United Kingdom, Japan, and North Atlantic Treaty (NATO) AEW&amp;C efforts. Key programs include contractual management of the AWACS Avionics Integration Laboratory (AIL) integrated with the Block 40/45 Functional Group configured lab and the AWACS Radar Systems Integration Lab/Software Development Facility (SIL/SDF). These labs provide US, Foreign Military Sales (FMS), and international customers with a configured development and qualification system and subsystem environment supporting all AWACS system and radar development, production, and sustainment. TSI efforts allow new support equipment technologies and test strategies to be analyzed to ensure concurrent capability to sustain existing, modified, and upgraded E-3 equipment.</p> <p>4. E-3 Command and Control, Intelligence, Surveillance, and Reconnaissance (C2ISR): C2ISR system improvements investigate and develop future capabilities of the AWACS weapon system. These efforts also include but are not limited to the investigation, analysis and development to ensure that AWACS successfully integrates with joint and coalition forces in a net-centric environment. C2ISR primarily supports pre-systems acquisition in the areas of materiel solution analysis and technology development. This is accomplished by prototyping and demonstrating capabilities required by the warfighter but also includes developing an E-3 Modernization &amp; Sustainment Roadmap that projects user capability needs, as well as materiel solutions for the user needs. C2ISR will also support an analytical comparison of the operational effectiveness, suitability, and life-cycle cost of alternative materiel solutions beyond the current AWACS that satisfy an established capability need identified in an Initial Capabilities Document (ICD).</p> <p>5. E-3 Internet Protocol Enabled Communication (IPEC): IPEC will provide the Block 40/45 E-3 with a medium-bandwidth Internet Protocol (IP) communications capability to connect to the Global Information Grid and will support net-centric operations/warfare. IPEC will provide a reliable IP-enabled communication capability to support a shortened digitized kill-chain of time-sensitive targets. The modification will provide a permanent Inmarsat-based IP-enabled communications package supporting warfighter identified requirements for increased bandwidth Secret Internet Protocol Router Network (SIPRNet) and multi-domain networks. IPEC was originally planned for accomplishment as a traditional acquisition program, but due to warfighter demand, the effort has been re-classified as an Urgent Operational Need (UON).</p> <p>6. E-3 Combat Identification (CID) DMS: AWACS' current CID capability is based upon 1960's era technology that has become unsustainable, and requires an update to retain a significant part of AWACS overall mission capability. AWACS will address C2 CID shortfalls with a modern, persistent Airborne Moving Target Indication (AMTI) BM/C2 combat ID. CID DMS supports the kill chain and decision superiority. The upgrade will also provide for better integration into Block 40/45 and NGIFF equipped AWACS aircraft.</p> <p>7. E-3 Communication Network Upgrade (CNU): CNU will provide a Link 16 capability with high-jam-resistance, high-speed, crypto-secure computer-to-computer connectivity in support of every type of military platform from Air Force fighters to Navy submarines. Current 20 year old Class 2 terminal has sustainability/DMS issues and does not support mandated Crypto Mod (CM) &amp; Freq. Remap (FR). CNU resolves DMS issues, provides CM &amp; FR, Link 16 enhancements &amp; growth for Next Gen Tactical Data Link (TDL). In previous budget cycle, this effort was referred to as Multifunctional Information Distribution System Joint Tactical Radio System (MIDS JTRS).</p> |  |                            |

**UNCLASSIFIED**

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

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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 0207417F / <i>Airborne Warning and Control System (AWACS)</i> |
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The FY 2017 funding request was reduced by \$22.122M to account for the availability of prior year execution balances.

This program is in Budget Activity 7, Operational Systems 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 2015</b> | <b>FY 2016</b> | <b>FY 2017 Base</b> | <b>FY 2017 OCO</b> | <b>FY 2017 Total</b> |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget                       | 180.804        | 161.812        | 108.766             | 0.000              | 108.766              |
| Current President's Budget                        | 172.785        | 131.812        | 86.644              | 0.000              | 86.644               |
| Total Adjustments                                 | -8.019         | -30.000        | -22.122             | 0.000              | -22.122              |
| • Congressional General Reductions                | 0.000          | 0.000          |                     |                    |                      |
| • Congressional Directed Reductions               | 0.000          | -30.000        |                     |                    |                      |
| • Congressional Rescissions                       | 0.000          | 0.000          |                     |                    |                      |
| • Congressional Adds                              | 0.000          | 0.000          |                     |                    |                      |
| • Congressional Directed Transfers                | 0.000          | 0.000          |                     |                    |                      |
| • Reprogrammings                                  | -1.800         | 0.000          |                     |                    |                      |
| • SBIR/STTR Transfer                              | -6.219         | 0.000          |                     |                    |                      |
| • Other Adjustments                               | 0.000          | 0.000          | -22.122             | 0.000              | -22.122              |

**Change Summary Explanation**

- The FY 2016 budget reduced by \$30M for "Program Decrease".
- The FY 2017 funding request was reduced by \$22.122M to account for the availability of prior year execution balances.

| <b>C. Accomplishments/Planned Programs (\$ in Millions)</b>   | <b>FY 2015</b> | <b>FY 2016</b> | <b>FY 2017 Base</b> | <b>FY 2017 OCO</b> | <b>FY 2017 Total</b> |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| <b>Title:</b> E-3 DMS Replacement of Avionics for Global Operations and Navigation (DRAGON)   | 122.931        | 73.277         | 38.123              | -                  | 38.123               |
| <b>Description:</b> DRAGON  |                |                |                     |                    |                      |
| <b>FY 2015 Accomplishments:</b>   |                |                |                     |                    |                      |
| -Performed Handover Test of US development test aircraft (D-1), transferred aircraft to Boeing and began the aircraft modification. |                |                |                     |                    |                      |
| -Started flight testing of the NATO developmental aircraft (N- 1).  |                |                |                     |                    |                      |
| -Started the Technical Order (TO) validation for N-1.   |                |                |                     |                    |                      |
| -Started the Functional Configuration Audit (FCA) and Physical Configuration Audit (PCA) for N-1.                                   |                |                |                     |                    |                      |

**UNCLASSIFIED**

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| <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 0207417F / <i>Airborne Warning and Control System (AWACS)</i> |  |                            |  |                |                |                     |                    |                      |
| <b>C. Accomplishments/Planned Programs (\$ in Millions)</b>   |  |  |  |                            |  |                |                |                     |                    |                      |
|   |  |  |  |                            |  |                |                |                     |                    |                      |
| <p>-Initiated development of Automatic Dependent Surveillance - Broadcast (ADS-B) Out capability to DRAGON in FY15.</p> <p><b>FY 2016 Plans:</b></p> <ul style="list-style-type: none"> <li>-Complete N-1 (common) Functional Configuration Audit (FCA) and Physical Configuration Audit (PCA).</li> <li>-Perform D-1 Installation &amp; Checkout.</li> <li>-Start D-1 Ground Test and Flight Test.</li> <li>-Conduct D-1 Tech Order validation.</li> <li>-D-1 Ops Type 1 training starts</li> <li>-Start D-1 FCA and PCA.</li> <li>-N-1 Type 1 training complete.</li> <li>-Complete flight testing on N-1.</li> <li>-Boeing will deliver N-1.</li> <li>-Will award contract for DRAGON simulators.</li> </ul> <p><b>FY 2017 Base Plans:</b></p> <ul style="list-style-type: none"> <li>-Will complete development of D-1 FCA and PCA.</li> <li>-Boeing will deliver D-1.</li> <li>-Boeing will deliver two virtual desktop trainers.</li> </ul> |  |  |  |                            |  | <b>FY 2015</b> | <b>FY 2016</b> | <b>FY 2017 Base</b> | <b>FY 2017 OCO</b> | <b>FY 2017 Total</b> |
| <p><b>Title:</b> E-3 Electronic Protection (EP)</p> <p><b>Description:</b> EP</p> <p><b>FY 2015 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>-Performed Successful Radar Level Preliminary Design Review (PDR).</li> <li>-Awarded Engineering Manufacturing and Development (EMD) contract.</li> <li>-Began development of classified technology solutions to mitigate issues/concerns identified under the Radar Modernization Program (RMP) study.</li> </ul> <p><b>FY 2016 Plans:</b></p> <ul style="list-style-type: none"> <li>-Continue development of classified technology solutions to mitigate issues/concerns identified in the RMP study.</li> <li>-Conduct System Level PDR.</li> </ul>   |  |  |  |                            |  | 19.277         | 26.092         | 8.325               | -                  | 8.325                |

**UNCLASSIFIED**

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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 0207417F / <i>Airborne Warning and Control System (AWACS)</i> |
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| <b>C. Accomplishments/Planned Programs (\$ in Millions)</b>  | FY 2015 | FY 2016 | FY 2017 Base | FY 2017 OCO | FY 2017 Total |
|--|---------|---------|--------------|-------------|---------------|
| <p>-Conduct Critical Design Review (CDR).</p> <p><b>FY 2017 Base Plans:</b></p> <p>-Will continue development and maturation of classified technology radar solutions in both the Systems Integration Lab (SIL)/Software Development Facility (SDF) and Avionics Integration Laboratory (AIL) in preparation for the EMD ground and flight test.</p>   |         |         |              |             |               |
| <p><b>Title:</b> E-3 Training, Support and Infrastructure (TSI)</p> <p><b>Description:</b> TSI</p> <p><b>FY 2015 Accomplishments:</b></p> <p>-Supported AWACS developmental and production programs lab integration efforts.</p> <p>-Provided system lab support to EP, Block 40/45, DRAGON, Next Generation Identification Friend or Foe (NGIFF), Internet Protocol Enabled Communication (IPEC), radar improvement efforts, integration and test.</p> <p>-Supported E-3 and other OSD mandated interoperability testing and provided support for mandatory Operational, Safety, and Suitability and Effectiveness efforts.</p> <p>-Supported the E-3 AWACS Developmental Test and Evaluation AIL.</p> <p><b>FY 2016 Plans:</b></p> <p>-Continue to support AWACS developmental and production programs lab integration efforts.</p> <p>-Continue to provide system lab support to EP, Block 40/45, DRAGON, NGIFF, IPEC, radar improvement efforts, integration and test.</p> <p>-Continue to support E-3 and other OSD mandated interoperability testing and provide support for mandatory Operational, Safety, and Suitability and Effectiveness efforts.</p> <p>-Continue to support the E-3 AWACS Developmental Test and Evaluation AIL.</p> <p><b>FY 2017 Base Plans:</b></p> <p>-Will award follow-on contract(s).</p> <p>-Will support AWACS developmental and production programs lab integration efforts.</p> <p>-Will provide system lab support to EP, Block 40/45, DRAGON, NGIFF, IPEC, radar improvement, integration and test.</p> <p>-Will support AWACS and other OSD mandated interoperability testing and support mandatory E-3 Operational, Safety, and Suitability and Effectiveness program.</p> | 10.716  | 13.840  | 14.131       | -           | 14.131        |

**UNCLASSIFIED**

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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 0207417F / <i>Airborne Warning and Control System (AWACS)</i> |                     |                            |                      |
| <b>C. Accomplishments/Planned Programs (\$ in Millions)</b>  |                |  |                     |                            |                      |
|  | <b>FY 2015</b> | <b>FY 2016</b>   | <b>FY 2017 Base</b> | <b>FY 2017 OCO</b>         | <b>FY 2017 Total</b> |
| -Will support the E-3 AWACS Developmental Test & Evaluation AIL.   |                |  |                     |                            |                      |
| <b>Title:</b> E-3 Command and Control, Intelligence, Surveillance and Reconnaissance (C2ISR)<br><b>Description:</b> C2ISR<br><br><b>FY 2015 Accomplishments:</b><br>-Conducted engineering / integration studies to determine required modifications and associated costs to upgrade and support Risk Reduction activities.<br>-Continued integration with joint and coalition forces in a net-centric environment.<br><b>FY 2016 Plans:</b><br>-Conduct engineering / integration studies to determine required modifications and associated costs to upgrade and support Risk Reduction activities for program planning.<br>-Continue to execute International Cooperative Research & Development (ICR&D).<br><b>FY 2017 Base Plans:</b><br>-Will continue to conduct engineering / integration studies to determine required modifications and associated costs to upgrade and support risk reduction activities for program planning.<br>-Will continue to execute cooperative IR&D. | 4.235          | 4.861  | 4.785               | -                          | 4.785                |
| <b>Title:</b> E-3 Internet Protocol Enabled Communication (IPEC)<br><b>Description:</b> IPEC<br><br><b>FY 2015 Accomplishments:</b><br>-Awarded EMD contract to develop a medium bandwidth IP capability capitalizing on the Inmarsat terminal development conducted under the DRAGON program.<br><b>FY 2016 Plans:</b><br>-Continue EMD activities in preparation for contractor Development Test (DT) and Government DT and Operational Test (OT).<br><b>FY 2017 Base Plans:</b><br>-Will complete EMD, DT, and OT.  | 15.626         | 13.742   | 19.280              | -                          | 19.280               |
| <b>Title:</b> E-3 Combat Identification (CID) Diminishing Manufacturing Sources (DMS)<br><b>Description:</b> CID DMS   | 0.000          | 0.000  | 1.000               | -                          | 1.000                |

**UNCLASSIFIED**

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| <b>C. Accomplishments/Planned Programs (\$ in Millions)</b>   | <b>FY 2015</b> | <b>FY 2016</b> | <b>FY 2017<br/>Base</b> | <b>FY 2017<br/>OCO</b> | <b>FY 2017<br/>Total</b> |
|---|----------------|----------------|-------------------------|------------------------|--------------------------|
| <b>FY 2015 Accomplishments:</b><br>N/A  |                |                |                         |                        |                          |
| <b>FY 2016 Plans:</b><br>N/A  |                |                |                         |                        |                          |
| <b>FY 2017 Base Plans:</b><br>-Will conduct a study focused buying down development risk(s) in advance of awarding an EMD contract. |                |                |                         |                        |                          |
| <b>Title:</b> E-3 Communication Network Upgrade (CNU)<br><b>Description:</b> CNU  | 0.000          | 0.000          | 1.000                   | -                      | 1.000                    |
| <b>FY 2015 Accomplishments:</b><br>N/A  |                |                |                         |                        |                          |
| <b>FY 2016 Plans:</b><br>N/A  |                |                |                         |                        |                          |
| <b>FY 2017 Base Plans:</b><br>-Will conduct a study focused buying down development risk(s) in advance of awarding an EMD contract. |                |                |                         |                        |                          |
| <b>Accomplishments/Planned Programs Subtotals</b>   | 172.785        | 131.812        | 86.644                  | -                      | 86.644                   |

| <b>D. Other Program Funding Summary (\$ in Millions)</b>                     |                |                |                         |                        |                          |                |                |                |                |                             |                   |
|--|----------------|----------------|-------------------------|------------------------|--------------------------|----------------|----------------|----------------|----------------|-----------------------------|-------------------|
| <b>Line Item</b>   | <b>FY 2015</b> | <b>FY 2016</b> | <b>FY 2017<br/>Base</b> | <b>FY 2017<br/>OCO</b> | <b>FY 2017<br/>Total</b> | <b>FY 2018</b> | <b>FY 2019</b> | <b>FY 2020</b> | <b>FY 2021</b> | <b>Cost To<br/>Complete</b> | <b>Total Cost</b> |
| • APAF: BA05: Line Item # E00300: E-3  | 16.491         | 12.828         | 82.786                  | 6.600                  | 89.386                   | 145.452        | 157.431        | 168.853        | 156.540        | Continuing                  | Continuing        |
| • APAF: BA05: Line Item # E34045: <i>Airborne Warning and Control System</i> | 191.284        | 178.308        | 223.427                 | 0.000                  | 223.427                  | 103.420        | 58.154         | 29.309         | 0.000          | -                           | -                 |
| • APAF: BA06: Line Item # 000999: <i>Initial Spares/Repair Parts</i>         | 2.957          | 15.616         | 22.061                  | 0.000                  | 22.061                   | 22.502         | 23.938         | 24.366         | 21.472         | Continuing                  | Continuing        |

**Remarks**

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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 0207417F / <i>Airborne Warning and Control System (AWACS)</i> |                            |
| <b>E. Acquisition Strategy</b><br>The modernization of the AWACS weapon system consists of multiple capability upgrades that are developed and fielded on an existing sole source Indefinite Delivery/ Indefinite Quantity (ID/IQ) contract to the Boeing Corporation, Seattle, WA and Oklahoma City, OK. Full and open competition is explored for all new efforts where market research indicates opportunities exist.<br><br>Air Force Program Executive Officer (PEO) for Battle Management (AFPEO/BM) is the PEO and Milestone Decision Authority (MDA) for all AWACS Programs, with the exception of the E-3 Block 40/45 Upgrade. The E-3 Block 40/45 Upgrade MDA is the Secretary of the Air Force, with authority delegated to the Assistant Secretary of the Air Force (Acquisition) [SAF/AQ]. Of note, E-3 Block 40/45 Upgrade has completed development activities, so it has no 3600 funding and thus not otherwise referenced in this document. Air Force Life Cycle Management Center (AFLCMC) is the Contracting Authority for the AWACS portfolio and provides Contracts, Legal, and Comptroller Support. |  |                            |
| <b>F. Performance Metrics</b><br>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 2017 Air Force** **Date:** February 2016

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| <b>Appropriation/Budget Activity</b><br>3600 / 7 | <b>R-1 Program Element (Number/Name)</b><br>PE 0207417F / Airborne Warning and Control System (AWACS) | <b>Project (Number/Name)</b><br>67411L / Airborne Warning & Control System (AWACS) |
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| <b>Product Development (\$ in Millions)</b>   |                                   |   |                    | <b>FY 2015</b> |                   | <b>FY 2016</b> |                   | <b>FY 2017 Base</b> |                   | <b>FY 2017 OCO</b> |                   | <b>FY 2017 Total</b> |                         |                   |                                 |
|---|-----------------------------------|---|--------------------|----------------|-------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| <b>Cost Category Item</b>   | <b>Contract Method &amp; Type</b> | <b>Performing Activity &amp; Location</b> | <b>Prior Years</b> | <b>Cost</b>    | <b>Award Date</b> | <b>Cost</b>    | <b>Award Date</b> | <b>Cost</b>         | <b>Award Date</b> | <b>Cost</b>        | <b>Award Date</b> | <b>Cost</b>          | <b>Cost To Complete</b> | <b>Total Cost</b> | <b>Target Value of Contract</b> |
| (U) E-3 DMS Replacement of Avionics for Global Operations and Navigation (DRAGON)   | SS/FPIF                           | Boeing : Seattle, WA                      | -                  | 119.612        | Jan 2015          | 68.349         | Jan 2016          | 34.181              | Jan 2017          | 0.000              |                   | 34.181               | Continuing              | Continuing        | TBD                             |
| (U) E-3 Command and Control, Intelligence, Surveillance, and Reconnaissance (C2ISR) | SS/<br>Various                    | Boeing : Seattle, WA                      | -                  | 0.050          | Jan 2015          | 2.670          | Jan 2016          | 4.785               | Jan 2017          | 0.000              |                   | 4.785                | Continuing              | Continuing        | TBD                             |
| (U) E-3 Electronic Protection (EP)  | SS/CPIF                           | Boeing : Seattle, WA                      | -                  | 16.971         | Aug 2015          | 23.582         | Feb 2016          | 5.658               | Jan 2017          | 0.000              |                   | 5.658                | Continuing              | Continuing        | TBD                             |
| (U) E-3 Internet Protocol Enabled Communication (IPEC)                              | SS/<br>Various                    | Boeing : Oklahoma City, OK                | -                  | 14.071         | Sep 2015          | 10.891         | Mar 2016          | 16.429              | Jan 2017          | 0.000              |                   | 16.429               | Continuing              | Continuing        | TBD                             |
| (U) E-3 Combat Identification (CID) Diminishing Manufacturing Sources (DMS)         | TBD                               | TBD : TBD                                 | -                  | 0.000          |                   | 0.000          |                   | 1.000               | Jan 2017          | 0.000              |                   | 1.000                | Continuing              | Continuing        | TBD                             |
| (U) E-3 Communication Network Upgrade (CNU)   | TBD                               | TBD : TBD                                 | -                  | 0.000          |                   | 0.000          |                   | 1.000               | Jan 2017          | 0.000              |                   | 1.000                | Continuing              | Continuing        | TBD                             |
| (U) Prior Platform Modifications  | Various                           | Various : Various, NA                     | -                  | 0.000          |                   | 0.000          |                   | 0.000               |                   | 0.000              |                   | 0.000                | Continuing              | Continuing        | -                               |
| <b>Subtotal</b>   |                                   |   | -                  | 150.704        |                   | 105.492        |                   | 63.053              |                   | 0.000              |                   | 63.053               | -                       | -                 | -                               |

**Remarks**  
Total Program does not include NATO funds.

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





**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 0207417F / Airborne Warning and Control System (AWACS) | <b>Project (Number/Name)</b><br>67411L / Airborne Warning & Control System (AWACS) |

Schedule Details

| Events                         | Start   |      | End     |      |
|--------------------------------|---------|------|---------|------|
|                                | Quarter | Year | Quarter | Year |
| DRAGON EMD                     | 1       | 2015 | 3       | 2017 |
| DRAGON DT/OT                   | 1       | 2015 | 3       | 2019 |
| DRAGON Milestone C (Apr 2017)  | 3       | 2017 | 3       | 2017 |
| EP Technology Development      | 1       | 2015 | 4       | 2015 |
| EP Milestone B (Aug 2015)      | 4       | 2015 | 4       | 2015 |
| EP EMD                         | 4       | 2015 | 2       | 2019 |
| EP Milestone C (Apr 2019)      | 3       | 2019 | 3       | 2019 |
| EP DT/OT                       | 4       | 2018 | 2       | 2019 |
| TSI                            | 1       | 2015 | 4       | 2021 |
| C2ISR                          | 1       | 2015 | 4       | 2021 |
| IPEC TD                        | 1       | 2015 | 4       | 2015 |
| IPEC EMD                       | 4       | 2015 | 2       | 2017 |
| IPEC Ktr DT & Gov't DT/OT      | 3       | 2016 | 2       | 2017 |
| IPEC Milestone C (Jun 2017)    | 2       | 2017 | 2       | 2017 |
| CID DMS TD                     | 1       | 2017 | 3       | 2018 |
| CID DMS Milestone B (Aug 2016) | 3       | 2018 | 3       | 2018 |
| CID DMS EMD                    | 3       | 2018 | 4       | 2021 |
| CID DMS Milestone C (Sep 2021) | 4       | 2021 | 4       | 2021 |
| CNU TD Phase                   | 1       | 2017 | 2       | 2018 |
| CNU Milestone B (Aug 2016)     | 2       | 2018 | 2       | 2018 |
| CNU EMD                        | 2       | 2018 | 2       | 2020 |
| CNU Milestone C (Jan 2020)     | 2       | 2020 | 2       | 2020 |