

**UNCLASSIFIED**

|   |   |  |                   |                     |  |                     |                     |                           |                          |                        |                     |            |
|---|---|--|-------------------|---------------------|--|---------------------|---------------------|---------------------------|--------------------------|------------------------|---------------------|------------|
| <b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)</b>  |   |  |                   |                     |  |                     |                     |                           | DATE<br><b>June 2001</b> |                        |                     |            |
| BUDGET ACTIVITY<br><b>07 - Operational System Development</b>   |   |  |                   |                     | PE NUMBER AND TITLE<br><b>0207417F Airborne Warning and Control System (AWACS)</b> |                     |                     |                           |                          | PROJECT<br><b>411L</b> |                     |            |
| COST (\$ in Thousands)  |   |  | FY 2000<br>Actual | FY 2001<br>Estimate | FY 2002<br>Estimate  | FY 2003<br>Estimate | FY 2004<br>Estimate | FY 2005<br>Estimate       | FY 2006<br>Estimate      | FY 2007<br>Estimate    | Cost to<br>Complete | Total Cost |
| 411L  | Airborne Warning & Control System (AWACS) |  | 43,382            | 35,325              | 39,787   | 104,626             | 159,767             | 214,163                   | 191,611                  | 98,440                 | Continuing          | TBD        |
| Quantity of RDT&E Articles  |   |  | 0                 | 0                   | 0  | 0                   | 0                   | 0                         | 0                        | 0                      | 0                   | 0          |
| <p>FY03-FY07 budget numbers do not reflect DoD's strategic review results.</p> <p>(U) <b><u>A. Mission Description</u></b></p> <p>The funding set forth in this document investigates, develops, and integrates system improvements to enable the E-3 AWACS to remain an effective Battle Management airborne surveillance system for command and control of combat forces and for strategic defense of the U.S. This PE funds the following efforts:</p> <p>Modernization Programs: (3600)</p> <p>The Satellite Communication (SATCOM) Demand Assigned Multiple Access (DAMA) compliance was mandated by the Joint Chiefs of Staff (JCS) to expand Ultra High Frequency (UHF) SATCOM access and improve UHF SATCOM system interoperability. The AWACS DAMA SATCOM program will replace two non-DAMA UHF SATCOM terminals on each aircraft with two new DAMA compliant terminals. RDT&amp;E funding covers AWACS aircraft integration risk reduction /Engineering Manufacturing Development (EMD) beginning in FY02.</p> <p>The Block 40/45 risk reduction program drives down risk of utilizing new technology to meet the AWACS Block 40/45 Operational Requirements Document (ORD) ensuring the Block 40/45 program will meet war fighting requirements. Some of the techniques that will be utilized are modeling and simulation, requirement analysis, and designing a Commercial Off the Shelf (COTS) insertion process. Block 40/45 expects to deliver sensor fusion capability in support of the Single Integrated Air Picture (SIAP) via Multi-Sensor Integration (MSI), improve AWACS' contribution to Time Critical Targeting (TCT) via Data Link Infrastructure (DLI), and replace a 70's vintage mission computer and display system to improve quality and timeliness of sensor data to the shooter, improve Combat Identification (CID) and enable cheaper, faster upgrades via open systems architecture.</p> <p>Comm projects such as HF Email, provide the AWACS system with an effective method for electronically receiving critical mission information such as the Air Tasking Order. The program will focus on engineering and retrofitting the current fleet.</p> <p>Air Traffic Control (ATC) Compliance, the first spiral of the Global Air Traffic Management (GATM) program seeks to make communications and navigation</p> |   |  |                   |                     |  |                     |                     |                           |                          |                        |                     |            |
| Project 411L  |   |  | Page 1 of 7 Pages |                     |  |                     |                     | Exhibit R-2 (PE 0207417F) |                          |                        |                     |            |

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE June 2001

BUDGET ACTIVITY  
07 - Operational System Development

PE NUMBER AND TITLE  
0207417F Airborne Warning and Control System  
(AWACS)

PROJECT  
411L

(U) A. Mission Description Continued

improvements required to meet current mandated Air Traffic Control requirements through EMD and production.

Command & Control, Intelligence, Surveillance and Reconnaissance (C2ISR): C2ISR System Architecture Improvements provide timely enhancements to improve critical areas of the AWACS mission system, particularly in three areas:

1) Worldwide deployment and airspace access: Increasingly restrictive International Civil Aviation Organization (ICAO) and Federal Aviation Administration (FAA) standards require the AWACS to achieve navigational and communications enhancements in order to retain its worldwide deployment commitment. Programs will focus on risk reduction, EMD, and fielding.

2) Mission Capable (MC) rate improvement : Reliability, Maintainability, & Availability (RM&A) analysis and development projects provide system improvements that boost the below-standard MC rate of this critical C2 platform and increase airframe longevity in order to support its flight commitment to end of operational life. Such efforts focus on increasing reliability of the air vehicle, command, control and computer, and sensor systems and infrastructure improvements as well as providing solutions to diminishing manufacturing sources. Efforts will also focus on reduction of maintenance man-hours along with periodic depot maintenance improvements to increase aircraft availability. Programs will focus on risk reduction, development, and fielding.

3) C2ISR enhancement and integration: AWACS seeks to fulfill the requirements of Joint Vision 2010/2020, Real Time Defense Information Infrastructure Common Operating Environment, and the Expeditionary Air Force Concept of Operations, as well as supporting the needs of the warfighter (as outlined in Kosovo Lessons Learned and other sources). AWACS seeks to achieve horizontal integration through Network Centric Collaborative Targeting (NCCT). Sensor and communications improvements, such as the ability to send and receive the air and ground picture via data link to fighter aircraft and record mission data for timely and accurate debriefings, will be developed through rapid prototyping, modeling, and simulation, participation in Joint live and simulated exercises (e.g., Joint Distributed Engineering Plant (JDEP)), and collaboration with other sensor platforms through tools such as NCCT. Certain near-term efforts, required by the warfighter to improve the timelines and accuracy of information passed to and from fighter aircraft in the engagement zone and to provide consistent and replayable mission data once the mission is complete, are quick reaction programs that can be developed and fielded to support the next air war. The program includes concept exploration & technology development and system development & demonstration efforts that support continuous improvements and implementation of C2ISR capabilities to enable a joint global strike task force. This effort includes, but is not limited to, manned and unmanned platforms, space, data links and advanced Battle Management Command, Control and Communications (BMC3) concepts. Fielding strategies will provide for immediate field retrofit when able, otherwise occur in current or future modernization programs. All programs are designed to integrate with and transition into the next C2ISR platform.

**UNCLASSIFIED**

| <b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)</b>   |  | DATE<br><b>June 2001</b>  |
|--|--|---------------------------|
| BUDGET ACTIVITY<br><b>07 - Operational System Development</b>  | PE NUMBER AND TITLE<br><b>0207417F Airborne Warning and Control System<br/>(AWACS)</b> | PROJECT<br><b>411L</b>    |
| (U) <b><u>A. Mission Description Continued</u></b>   |  |                           |
| Test System 3 (TS-3) and lab support includes maintenance and operations of the Government owned/contractor-operated test aircraft and associated laboratory facilities located at Boeing in Seattle, Washington. These facilities support AWACS modernization and support programs. They also provide the infrastructure for AWACS to participate in live fly and ground-based simulation exercises such as JDEP, Virtual Warfighter Center (VWC), SIAP, and Cooperative Engagement Capability (CEC) studies. |  |                           |
| (U) <b><u>FY 2000 (\$ in Thousands)</u></b>  |  |                           |
| (U) \$7,653  | C2ISR System Architecture Improvements   |                           |
| (U) \$7,003  | Test System-3/AWACS Integration Test Support (AITS) and program sustaining efforts     |                           |
| (U) \$11,981   | Cooperative Engagement Capability (CEC) on TS-3  |                           |
| (U) \$16,745   | Block 40/45 Risk Reduction   |                           |
| (U) \$43,382   | Total  |                           |
| (U) <b><u>FY 2001 (\$ in Thousands)</u></b>  |  |                           |
| (U) \$12,112   | C2ISR System Architecture Improvements   |                           |
| (U) \$13,755   | Test System-3/AITS support and program sustaining efforts                              |                           |
| (U) \$8,381  | Block 40/45 Risk Reduction   |                           |
| (U) \$1,077  | Other  |                           |
| (U) \$35,325   | Total  |                           |
| The following net transactions are not reflected in the FY01 program total: BTR = -107K, SBIR = 1,092K, Incorrect Recission Posting = +1K  |  |                           |
| (U) <b><u>FY 2002 (\$ in Thousands)</u></b>  |  |                           |
| (U) \$5,884  | C2ISR System Architecture Improvements   |                           |
| (U) \$14,750   | Test System-3/AITS support and program sustaining efforts                              |                           |
| (U) \$7,444  | Block 40/45  |                           |
| (U) \$1,029  | ATC Compliance   |                           |
| (U) \$1,811  | Comm Projects  |                           |
| (U) \$8,869  | SATCOM DAMA  |                           |
| (U) \$39,787   | Total  |                           |
| Project 411L   | Page 3 of 7 Pages  | Exhibit R-2 (PE 0207417F) |

UNCLASSIFIED

| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)   |   |                |                 |   |                 |                 | DATE            |                   |                 |                 |                   |
|---|---|----------------|-----------------|---|-----------------|-----------------|-----------------|-------------------|-----------------|-----------------|-------------------|
|   |   |                |                 |   |                 |                 | June 2001       |                   |                 |                 |                   |
| BUDGET ACTIVITY   |   |                |                 | PE NUMBER AND TITLE                                     |                 |                 | PROJECT         |                   |                 |                 |                   |
| 07 - Operational System Development   |   |                |                 | 0207417F Airborne Warning and Control System<br>(AWACS) |                 |                 | 411L            |                   |                 |                 |                   |
| (U) <b><u>B. Budget Activity Justification</u></b>  |   |                |                 |   |                 |                 |                 |                   |                 |                 |                   |
| Operational Systems Development, Budget Activity 7. AWACS is a fielded, operational system currently undergoing major modifications/block upgrades and continuing sustainment activities.   |   |                |                 |   |                 |                 |                 |                   |                 |                 |                   |
| (U) <b><u>C. Program Change Summary (\$ in Thousands)</u></b>   |   |                |                 |   |                 |                 |                 |                   |                 |                 |                   |
|   |   |                |                 | <u>FY 2000</u>  | <u>FY 2001</u>  | <u>FY 2002</u>  |                 | <u>Total Cost</u> |                 |                 |                   |
| (U)   | Previous President's Budget (FY 2001 PBR)     |                |                 | 36,178  | 35,653          | 31,969          |                 | TBD               |                 |                 |                   |
| (U)   | Appropriated Value                            |                |                 | 36,178  | 35,653          |                 |                 |                   |                 |                 |                   |
| (U)   | Adjustments to Appropriated Value             |                |                 |   |                 |                 |                 |                   |                 |                 |                   |
|   | a. Congressional/General Reductions           |                |                 | -16   |                 |                 |                 |                   |                 |                 |                   |
|   | b. Small Business Innovative Research         |                |                 | -1,089  |                 |                 |                 |                   |                 |                 |                   |
|   | c. Omnibus or Other Above Threshold Reprogram |                |                 | 8,696   |                 |                 |                 |                   |                 |                 |                   |
|   | d. Below Threshold Reprogram                  |                |                 | -245  |                 |                 |                 |                   |                 |                 |                   |
|   | e. Rescissions                                |                |                 | -142  | -328            |                 |                 |                   |                 |                 |                   |
| (U)   | Adjustments to Budget Years Since FY 2001 PBR |                |                 |   |                 | 7,818           |                 |                   |                 |                 |                   |
| (U)   | Current Budget Submit/FY 2002 PBR             |                |                 | 43,382  | 35,325          | 39,787          |                 | TBD               |                 |                 |                   |
| (U) <b><u>Significant Program Changes:</u></b>  |   |                |                 |   |                 |                 |                 |                   |                 |                 |                   |
| FY00: , +8,696K Omnibus Reprogram   |   |                |                 |   |                 |                 |                 |                   |                 |                 |                   |
| FY01: Does not reflect SBIR (-1.092M) and BTR of (-107K) for CAOC-X   |   |                |                 |   |                 |                 |                 |                   |                 |                 |                   |
| FY02: +\$8,903K from AF procurement to RDT&E for DAMA SATCOM. Also reflects -\$4,800K FY02 program adjustment in AWACS C2ISR & Interoperability, +\$6,796K for Acquisition Stability Reserve adjustments, and -\$2,900K AF Offset CEC and +\$232K from OSD adjustments. |   |                |                 |   |                 |                 |                 |                   |                 |                 |                   |
| (U) <b><u>D. Other Program Funding Summary (\$ in Thousands)</u></b>  |   |                |                 |   |                 |                 |                 |                   |                 |                 |                   |
|   |   | <u>FY 2000</u> | <u>FY 2001</u>  | <u>FY 2002</u>  | <u>FY 2003</u>  | <u>FY 2004</u>  | <u>FY 2005</u>  | <u>FY 2006</u>    | <u>FY 2007</u>  | <u>Cost to</u>  | <u>Total Cost</u> |
|   |   | <u>Actual</u>  | <u>Estimate</u> | <u>Estimate</u>   | <u>Estimate</u> | <u>Estimate</u> | <u>Estimate</u> | <u>Estimate</u>   | <u>Estimate</u> | <u>Complete</u> |                   |
| (U)   | AF RDT&E                                      |                |                 |   |                 |                 |                 |                   |                 |                 |                   |
| (U)   | Other APPN                                    |                |                 |   |                 |                 |                 |                   |                 |                 |                   |
| (U)   | Aircraft Procurement, AF,<br>E-3 Mods         | 114,534        | 87,845          | 92,688  | 29,939          | 28,714          | 13,787          | 49,854            | 150,147         |                 | TBD               |
| (U)   | E-3 Initial Spares, AF                        | 40,499         | 18,195          | 28,344  | 16,089          | 17,903          | 17,180          | 0                 | 0               |                 | TBD               |
| Project 411L  |   |                |                 |   |                 |                 |                 |                   |                 |                 |                   |

**UNCLASSIFIED**

| <b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)</b>  |                |   |   |  |                |   | DATE<br><b>June 2001</b> |                           |                |   |                |   |  |  |                |  |  |  |                |  |  |  |   |   |   |   |   |   |   |   |   |   |   |   |                         |  |  |  |  |  |  |  |  |  |  |  |  |                      |  |  |  |  |  |  |   |  |  |  |  |  |                             |  |  |  |  |  |  |  |  |   |  |  |  |                           |  |  |  |  |  |  |  |  |  |  |   |  |                             |  |  |  |  |  |  |  |  |  |  |   |  |                              |  |  |  |  |  |  |  |  |  |  |   |  |                            |  |  |  |  |  |  |  |  |  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |  |
|---|----------------|---|---|--|----------------|---|--------------------------|---------------------------|----------------|---|----------------|---|--|--|----------------|--|--|--|----------------|--|--|--|---|---|---|---|---|---|---|---|---|---|---|---|-------------------------|--|--|--|--|--|--|--|--|--|--|--|--|----------------------|--|--|--|--|--|--|---|--|--|--|--|--|-----------------------------|--|--|--|--|--|--|--|--|---|--|--|--|---------------------------|--|--|--|--|--|--|--|--|--|--|---|--|-----------------------------|--|--|--|--|--|--|--|--|--|--|---|--|------------------------------|--|--|--|--|--|--|--|--|--|--|---|--|----------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--------------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| BUDGET ACTIVITY<br><b>07 - Operational System Development</b>   |                |   |   | PE NUMBER AND TITLE<br><b>0207417F Airborne Warning and Control System (AWACS)</b> |                |   |                          | PROJECT<br><b>411L</b>    |                |   |                |   |  |  |                |  |  |  |                |  |  |  |   |   |   |   |   |   |   |   |   |   |   |   |                         |  |  |  |  |  |  |  |  |  |  |  |  |                      |  |  |  |  |  |  |   |  |  |  |  |  |                             |  |  |  |  |  |  |  |  |   |  |  |  |                           |  |  |  |  |  |  |  |  |  |  |   |  |                             |  |  |  |  |  |  |  |  |  |  |   |  |                              |  |  |  |  |  |  |  |  |  |  |   |  |                            |  |  |  |  |  |  |  |  |  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |  |
| <p>(U) <b><u>E. Acquisition Strategy</u></b><br/>                 Most major programs (SATCOM DAMA, Block 40/45, TS-3and lab support) will be sole source to Boeing aircraft in Seattle, Wa.</p> <p>(U) <b><u>F. Schedule Profile</u></b></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:40%;"></th> <th colspan="4" style="text-align: center;"><u>FY 2000</u></th> <th colspan="4" style="text-align: center;"><u>FY 2001</u></th> <th colspan="3" style="text-align: center;"><u>FY 2002</u></th> </tr> <tr> <th></th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> </tr> </thead> <tbody> <tr> <td>(U) RSIP FOT&amp;E Complete</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) RSIP IOC June 01</td> <td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">*</td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) BLK 30/35 FOC 1QTR FY02</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">X</td><td></td><td></td><td></td> </tr> <tr> <td>(U) SATCOM DAMA EMD START</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">X</td><td></td> </tr> <tr> <td>(U) COMM PROJECTS EMD START</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">X</td><td></td> </tr> <tr> <td>(U) ATC COMPLIANCE EMD START</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">X</td><td></td> </tr> <tr> <td colspan="10">* Denotes completed events</td> <td colspan="3"></td> </tr> <tr> <td colspan="10">X Denotes planned events</td> <td colspan="3"></td> </tr> </tbody> </table> |                |   |   |  |                |   |                          |                           |                |   | <u>FY 2000</u> |   |  |  | <u>FY 2001</u> |  |  |  | <u>FY 2002</u> |  |  |  | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | (U) RSIP FOT&E Complete |  |  |  |  |  |  |  |  |  |  |  |  | (U) RSIP IOC June 01 |  |  |  |  |  |  | * |  |  |  |  |  | (U) BLK 30/35 FOC 1QTR FY02 |  |  |  |  |  |  |  |  | X |  |  |  | (U) SATCOM DAMA EMD START |  |  |  |  |  |  |  |  |  |  | X |  | (U) COMM PROJECTS EMD START |  |  |  |  |  |  |  |  |  |  | X |  | (U) ATC COMPLIANCE EMD START |  |  |  |  |  |  |  |  |  |  | X |  | * Denotes completed events |  |  |  |  |  |  |  |  |  |  |  |  | X Denotes planned events |  |  |  |  |  |  |  |  |  |  |  |  |
|   | <u>FY 2000</u> |   |   |  | <u>FY 2001</u> |   |                          |                           | <u>FY 2002</u> |   |                |   |  |  |                |  |  |  |                |  |  |  |   |   |   |   |   |   |   |   |   |   |   |   |                         |  |  |  |  |  |  |  |  |  |  |  |  |                      |  |  |  |  |  |  |   |  |  |  |  |  |                             |  |  |  |  |  |  |  |  |   |  |  |  |                           |  |  |  |  |  |  |  |  |  |  |   |  |                             |  |  |  |  |  |  |  |  |  |  |   |  |                              |  |  |  |  |  |  |  |  |  |  |   |  |                            |  |  |  |  |  |  |  |  |  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |  |
|   | 1              | 2 | 3 | 4  | 1              | 2 | 3                        | 4                         | 1              | 2 | 3              | 4 |  |  |                |  |  |  |                |  |  |  |   |   |   |   |   |   |   |   |   |   |   |   |                         |  |  |  |  |  |  |  |  |  |  |  |  |                      |  |  |  |  |  |  |   |  |  |  |  |  |                             |  |  |  |  |  |  |  |  |   |  |  |  |                           |  |  |  |  |  |  |  |  |  |  |   |  |                             |  |  |  |  |  |  |  |  |  |  |   |  |                              |  |  |  |  |  |  |  |  |  |  |   |  |                            |  |  |  |  |  |  |  |  |  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |  |
| (U) RSIP FOT&E Complete   |                |   |   |  |                |   |                          |                           |                |   |                |   |  |  |                |  |  |  |                |  |  |  |   |   |   |   |   |   |   |   |   |   |   |   |                         |  |  |  |  |  |  |  |  |  |  |  |  |                      |  |  |  |  |  |  |   |  |  |  |  |  |                             |  |  |  |  |  |  |  |  |   |  |  |  |                           |  |  |  |  |  |  |  |  |  |  |   |  |                             |  |  |  |  |  |  |  |  |  |  |   |  |                              |  |  |  |  |  |  |  |  |  |  |   |  |                            |  |  |  |  |  |  |  |  |  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |  |
| (U) RSIP IOC June 01  |                |   |   |  |                |   | *                        |                           |                |   |                |   |  |  |                |  |  |  |                |  |  |  |   |   |   |   |   |   |   |   |   |   |   |   |                         |  |  |  |  |  |  |  |  |  |  |  |  |                      |  |  |  |  |  |  |   |  |  |  |  |  |                             |  |  |  |  |  |  |  |  |   |  |  |  |                           |  |  |  |  |  |  |  |  |  |  |   |  |                             |  |  |  |  |  |  |  |  |  |  |   |  |                              |  |  |  |  |  |  |  |  |  |  |   |  |                            |  |  |  |  |  |  |  |  |  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |  |
| (U) BLK 30/35 FOC 1QTR FY02   |                |   |   |  |                |   |                          |                           | X              |   |                |   |  |  |                |  |  |  |                |  |  |  |   |   |   |   |   |   |   |   |   |   |   |   |                         |  |  |  |  |  |  |  |  |  |  |  |  |                      |  |  |  |  |  |  |   |  |  |  |  |  |                             |  |  |  |  |  |  |  |  |   |  |  |  |                           |  |  |  |  |  |  |  |  |  |  |   |  |                             |  |  |  |  |  |  |  |  |  |  |   |  |                              |  |  |  |  |  |  |  |  |  |  |   |  |                            |  |  |  |  |  |  |  |  |  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |  |
| (U) SATCOM DAMA EMD START   |                |   |   |  |                |   |                          |                           |                |   | X              |   |  |  |                |  |  |  |                |  |  |  |   |   |   |   |   |   |   |   |   |   |   |   |                         |  |  |  |  |  |  |  |  |  |  |  |  |                      |  |  |  |  |  |  |   |  |  |  |  |  |                             |  |  |  |  |  |  |  |  |   |  |  |  |                           |  |  |  |  |  |  |  |  |  |  |   |  |                             |  |  |  |  |  |  |  |  |  |  |   |  |                              |  |  |  |  |  |  |  |  |  |  |   |  |                            |  |  |  |  |  |  |  |  |  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |  |
| (U) COMM PROJECTS EMD START   |                |   |   |  |                |   |                          |                           |                |   | X              |   |  |  |                |  |  |  |                |  |  |  |   |   |   |   |   |   |   |   |   |   |   |   |                         |  |  |  |  |  |  |  |  |  |  |  |  |                      |  |  |  |  |  |  |   |  |  |  |  |  |                             |  |  |  |  |  |  |  |  |   |  |  |  |                           |  |  |  |  |  |  |  |  |  |  |   |  |                             |  |  |  |  |  |  |  |  |  |  |   |  |                              |  |  |  |  |  |  |  |  |  |  |   |  |                            |  |  |  |  |  |  |  |  |  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |  |
| (U) ATC COMPLIANCE EMD START  |                |   |   |  |                |   |                          |                           |                |   | X              |   |  |  |                |  |  |  |                |  |  |  |   |   |   |   |   |   |   |   |   |   |   |   |                         |  |  |  |  |  |  |  |  |  |  |  |  |                      |  |  |  |  |  |  |   |  |  |  |  |  |                             |  |  |  |  |  |  |  |  |   |  |  |  |                           |  |  |  |  |  |  |  |  |  |  |   |  |                             |  |  |  |  |  |  |  |  |  |  |   |  |                              |  |  |  |  |  |  |  |  |  |  |   |  |                            |  |  |  |  |  |  |  |  |  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |  |
| * Denotes completed events  |                |   |   |  |                |   |                          |                           |                |   |                |   |  |  |                |  |  |  |                |  |  |  |   |   |   |   |   |   |   |   |   |   |   |   |                         |  |  |  |  |  |  |  |  |  |  |  |  |                      |  |  |  |  |  |  |   |  |  |  |  |  |                             |  |  |  |  |  |  |  |  |   |  |  |  |                           |  |  |  |  |  |  |  |  |  |  |   |  |                             |  |  |  |  |  |  |  |  |  |  |   |  |                              |  |  |  |  |  |  |  |  |  |  |   |  |                            |  |  |  |  |  |  |  |  |  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |  |
| X Denotes planned events  |                |   |   |  |                |   |                          |                           |                |   |                |   |  |  |                |  |  |  |                |  |  |  |   |   |   |   |   |   |   |   |   |   |   |   |                         |  |  |  |  |  |  |  |  |  |  |  |  |                      |  |  |  |  |  |  |   |  |  |  |  |  |                             |  |  |  |  |  |  |  |  |   |  |  |  |                           |  |  |  |  |  |  |  |  |  |  |   |  |                             |  |  |  |  |  |  |  |  |  |  |   |  |                              |  |  |  |  |  |  |  |  |  |  |   |  |                            |  |  |  |  |  |  |  |  |  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |  |
| Project 411L  |                |   |   | Page 5 of 7 Pages  |                |   |                          | Exhibit R-2 (PE 0207417F) |                |   |                |   |  |  |                |  |  |  |                |  |  |  |   |   |   |   |   |   |   |   |   |   |   |   |                         |  |  |  |  |  |  |  |  |  |  |  |  |                      |  |  |  |  |  |  |   |  |  |  |  |  |                             |  |  |  |  |  |  |  |  |   |  |  |  |                           |  |  |  |  |  |  |  |  |  |  |   |  |                             |  |  |  |  |  |  |  |  |  |  |   |  |                              |  |  |  |  |  |  |  |  |  |  |   |  |                            |  |  |  |  |  |  |  |  |  |  |  |  |                          |  |  |  |  |  |  |  |  |  |  |  |  |

UNCLASSIFIED

| RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)                                  |                             |                   |                   |                |  |                | DATE<br>June 2001 |                 |                  |                |
|---|-----------------------------|-------------------|-------------------|----------------|--|----------------|-------------------|-----------------|------------------|----------------|
| BUDGET ACTIVITY<br>07 - Operational System Development                              |                             |                   |                   |                | PE NUMBER AND TITLE<br>0207417F Airborne Warning and Control System<br>(AWACS) |                |                   | PROJECT<br>411L |                  |                |
| <b>(U) A. Project Cost Breakdown (\$ in Thousands)</b>                              |                             |                   |                   |                |  |                |                   |                 |                  |                |
|   |                             |                   |                   |                |  | FY 2000        |                   | FY 2001         |                  | FY 2002        |
| (U)   | Contracts                   |                   |                   |                |  | 38,553         |                   | 24,329          |                  | 32,472         |
| (U)   | MITRE/TEMS                  |                   |                   |                |  | 3,053          |                   | 5,386           |                  | 6,097          |
| (U)   | Travel                      |                   |                   |                |  | 349            |                   | 785             |                  | 640            |
| (U)   | Other                       |                   |                   |                |  | 1,427          |                   | 4,825           |                  | 578            |
| (U)   | Total                       |                   |                   |                |  | 43,382         |                   | 35,325          |                  | 39,787         |
| <b>(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)</b> |                             |                   |                   |                |  |                |                   |                 |                  |                |
| <b>(U) Performing Organizations:</b>  |                             |                   |                   |                |  |                |                   |                 |                  |                |
| <u>Contractor or</u>  | <u>Contract</u>             |                   |                   |                |  |                |                   |                 |                  |                |
| <u>Government</u>   | <u>Method/Type</u>          | <u>Award or</u>   | <u>Performing</u> | <u>Project</u> |  |                |                   |                 |                  |                |
| <u>Performing</u>   | <u>or Funding</u>           | <u>Obligation</u> | <u>Activity</u>   | <u>Office</u>  | <u>Total Prior</u>   | <u>Budget</u>  | <u>Budget</u>     | <u>Budget</u>   | <u>Budget to</u> | <u>Total</u>   |
| <u>Activity</u>   | <u>Vehicle</u>              | <u>Date</u>       | <u>EAC</u>        | <u>EAC</u>     | <u>to FY 2000</u>  | <u>FY 2000</u> | <u>FY 2001</u>    | <u>FY 2002</u>  | <u>Complete</u>  | <u>Program</u> |
| <u>Product Development Organizations</u>  |                             |                   |                   |                |  |                |                   |                 |                  |                |
| (U)   | Boeing (Block 40/45)        | FPIF/CPAF         | N/A               | N/A            | 1,038  | 15,864         | 7,366             | 6,947           | Continuing       | TBD            |
| (U)   | Boeing (PDMA)*              | Multiple          | N/A               | N/A            | 58,149   | 0              | 0                 |                 |                  | 58,149         |
| (U)   | Boeing (C2ISR Sys Arch Imp) | FPIF/CPAF         | N/A               | N/A            | 23,493   | 5,957          | 10,218            | 4,881           | Continuing       | TBD            |
| (U)   | Boeing ( DAMA SATCOM )      | T&M (ISC)         | 10/00             | N/A            | N/A  | 0              | 0                 | 8,219           | 12,834           | 21,053         |
| (U)   | Comm Projects (HF E-mail)   | FFP               | 10/01             | N/A            | N/A  | 0              | 0                 | 1,811           | 2,768            | 4,579          |
| (U)   | ATC Compliance/GATM         | Multiple          | 10/01             | N/A            | N/A  | 0              | 0                 | 1,029           | Continuing       | TBD            |
| (U)   | Raytheon (CEC)              | CPAF              | 11/99             | N/A            | N/A  | 0              | 11,981            | 0               | 0                | 11,981         |

UNCLASSIFIED

| RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)   |                    |                   |                 |     |   |                |                | DATE<br>June 2001 |                  |                |  |
|--|--------------------|-------------------|-----------------|-----|---|----------------|----------------|-------------------|------------------|----------------|--|
| BUDGET ACTIVITY  |                    |                   |                 |     | PE NUMBER AND TITLE   |                |                |                   | PROJECT          |                |  |
| <b>07 - Operational System Development</b>   |                    |                   |                 |     | <b>0207417F Airborne Warning and Control System<br/>(AWACS)</b> |                |                |                   | <b>411L</b>      |                |  |
| <b>(U) <u>Performing Organizations Continued:</u></b>  |                    |                   |                 |     |   |                |                |                   |                  |                |  |
| * N/A based on Program Depot Maintenance Airframe (PDMA) Acquisition Strategy which includes multiple contracts with multiple organizations with overlapping and continuing performance periods. |                    |                   |                 |     |   |                |                |                   |                  |                |  |
| ** Total Program does not include NATO funds.  |                    |                   |                 |     |   |                |                |                   |                  |                |  |
| <u>Support and Management Organizations</u>  |                    |                   |                 |     |   |                |                |                   |                  |                |  |
| (U) Support/ITSP   | Multiple           | N/A               | N/A             | N/A | 557,271   | 4,829          | 10,995         | 7,315             | Continuing       | TBD            |  |
| MITRE, travel, other contracts   |                    |                   |                 |     |   |                |                |                   |                  |                |  |
| <u>Test and Evaluation Organizations</u>   |                    |                   |                 |     |   |                |                |                   |                  |                |  |
| (U) Test System-3 ADAPT  | Multiple           | N/A               | N/A             | N/A | 359,979   | 4,751          | 6,746          | 9,585             | Continuing       | TBD            |  |
| Contract/AITS Contract / Other test activities   |                    |                   |                 |     |   |                |                |                   |                  |                |  |
| <b>(U) <u>Government Furnished Property:</u></b>   |                    |                   |                 |     |   |                |                |                   |                  |                |  |
| <u>Item</u>  | <u>Contract</u>    | <u>Award or</u>   | <u>Delivery</u> |     | <u>Total Prior</u>  | <u>Budget</u>  | <u>Budget</u>  | <u>Budget</u>     | <u>Budget to</u> | <u>Total</u>   |  |
| <u>Description</u>   | <u>Method/Type</u> | <u>Obligation</u> | <u>Date</u>     |     | <u>to FY 2000</u>   | <u>FY 2000</u> | <u>FY 2001</u> | <u>FY 2002</u>    | <u>Complete</u>  | <u>Program</u> |  |
| <u>Vehicle</u>   |                    | <u>Date</u>       | <u>Date</u>     |     |   |                |                |                   |                  |                |  |
| <u>Product Development Property</u>  |                    |                   |                 |     |   |                |                |                   |                  |                |  |
| <u>Support and Management Property</u>   |                    |                   |                 |     |   |                |                |                   |                  |                |  |
| <u>Test and Evaluation Property</u>  |                    |                   |                 |     |   |                |                |                   |                  |                |  |
| <u>Subtotals</u>   |                    |                   |                 |     | <u>Total Prior</u>  | <u>Budget</u>  | <u>Budget</u>  | <u>Budget</u>     | <u>Budget to</u> | <u>Total</u>   |  |
|  |                    |                   |                 |     | <u>to FY 2000</u>   | <u>FY 2000</u> | <u>FY 2001</u> | <u>FY 2002</u>    | <u>Complete</u>  | <u>Program</u> |  |
| Subtotal Product Development   |                    |                   |                 |     | 82,680  | 33,802         | 17,584         | 22,887            | TBD              | TBD            |  |
| Subtotal Support and Management  |                    |                   |                 |     | 557,271   | 4,829          | 10,995         | 7,315             | TBD              | TBD            |  |
| Subtotal Test and Evaluation   |                    |                   |                 |     | 359,979   | 4,751          | 6,746          | 9,585             | TBD              | TBD            |  |
| Total Project  |                    |                   |                 |     | 999,930   | 43,382         | 35,325         | 39,787            | TBD              | TBD            |  |