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| Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force                                                                    |             |         |         |              |                                                                                                           |               |         |         |         | Date: March 2014 |                  |            |
| Appropriation/Budget Activity<br>3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development |             |         |         |              | R-1 Program Element (Number/Name)<br>PE 0207581F I Joint Surveillance/Target Attack Radar System (JSTARS) |               |         |         |         |                  |                  |            |
| COST (\$ in Millions)                                                                                                              | Prior Years | FY 2013 | FY 2014 | FY 2015 Base | FY 2015 OCO #                                                                                             | FY 2015 Total | FY 2016 | FY 2017 | FY 2018 | FY 2019          | Cost To Complete | Total Cost |
| Total Program Element                                                                                                              | -           | 23.566  | 23.148  | -            | -                                                                                                         | -             | 0.001   | -       | -       | -                | Continuing       | Continuing |
| 670003: JSTARS                                                                                                                     | -           | 23.566  | 23.148  | -            | -                                                                                                         | -             | 0.001   | -       | -       | -                | Continuing       | Continuing |
| Quantity of RDT&E Articles                                                                                                         | -           | -       | -       | -            | -                                                                                                         | -             | -       | -       | -       | -                |                  |            |

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

**Note**

In FY 2015, Project 670003, JSTARS efforts were transferred to PE 0307581F, NextGen JSTARS, Project 650003, JSTARS Recapitalization , in order to consolidate efforts and continue development of the JSTARs Recap.

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

With the AF decision to begin the Joint Surveillance Target Attack Radar System (JSTARS) Recapitalization Program in FY15, and inclusion of funding for the program included in the FY15 President's Budget, no Modernization funds were requested for the legacy E-8C JSTARS program in FY 2015 and beyond.

The JSTARS is the world's premier airborne ground surveillance platform, meeting joint combat capability requirements. The 707-based E-8C JSTARS aircraft provides all-weather radar-derived Command and Control, Intelligence, Surveillance, and Reconnaissance (C2ISR) and targeting information on moving and stationary ground/ surface targets to include dismounts, slow moving rotary and fixed wing aircraft, and rotating antennas. JSTARS provides target information for matching direct attack aircraft, standoff weapons, and ground-based attack assets against selected targets. It can be cued by other intelligence, surveillance, and reconnaissance (ISR) and target acquisition systems. This capability enables air and ground regional/geographic commanders to effectively make and execute battlefield decisions at the component commander's level to battlefield forces. It contributes to predictive battle space awareness.

This program element enhances the warfighter's ability to achieve the joint vision of combat operations. It develops advanced battle management aids and information fusion technologies to enable rapid decisions in tracking and killing time-critical targets. Concept exploration, program definition/risk reduction efforts, and studies support continuous improvements in C2ISR, network centric operational capabilities, and interoperability with joint service, allied, and coalition systems.

This program element currently comprises one development program, JSTARS Modernization, and the supporting Test and Infrastructure. Development efforts for the Prime Mission Equipment-Diminishing Manufacturing Sources (PME-DMS) and Communications and Networking Upgrades (CNU) developmental programs were completed in FY 2013.

Activities also include studies and analyses to support both current program planning and execution as well as support to Urgent Operational Needs (UONs).

I. JSTARS Modernization:

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| Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                                                                                           | Date: March 2014 |              |             |               |
| Appropriation/Budget Activity<br>3600: Research, Development, Test & Evaluation, Air Force I BA 7:<br>Operational Systems Development                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | R-1 Program Element (Number/Name)<br>PE 0207581F I Joint Surveillance/Target Attack Radar System (JSTARS) |                  |              |             |               |
| The JSTARS modernization program consists of multiple efforts to develop and integrate platform wide system improvements.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                                                                           |                  |              |             |               |
| Additional Modernization efforts could include interoperability with manned and unmanned platforms; space data links; advanced Battle-Management Command and Control (BMC2) concepts; 8.33/25 kHz VHF Radio with Single Channel Ground and Airborne Radio System (SINCGARS) voice and data communication; ISR Constellation; Air Moving Target Indicator (AMTI); Advanced Radar Modes (ARM); Aided Target Recognition (ATR); Synthetic Aperture Radar (SAR)/Enhanced Synthetic Aperture Radar (ESAR); Network Centric Collaborative Targeting (NCCT); Multi-Agency Communication Capability (MACC); CENTRIX; Public Key Infrastructure (PKI); and Beyond-Line-of-Sight (BLOS) Network Architecture Upgrades (BNAU).         |  |                                                                                                           |                  |              |             |               |
| Training and support systems upgrade efforts include, but are not limited to: Weapon Systems Trainer (WST); Navigator Training System (NTS); and Mission Crew Trainers to include a Mission Maintenance Trainer (MMT), Prime Mission Equipment-Maintenance Training Device (PME-MTD) and the Mission System Trainer (MST).                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                           |                  |              |             |               |
| II. Test and Infrastructure:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                                                                                           |                  |              |             |               |
| The test infrastructure includes the JSTARS Extended Test Support (JETS), JSTARS Test Force (JTF), and C2 Enterprise Integration Facility (CEIF). All JSTARS efforts rely on the components of this test infrastructure to carry out RDT&E activities. The infrastructure includes a T-3 test aircraft, laboratories, support facilities, protection level (PL-2) security, Information Assurance (IA), and range support. All of the developmental programs have been completed. The Joint STARS test infrastructure continues to provide retrofit support to production programs and Urgent Operational Needs (UONs) as required. In FY 2014, the program began the transfer of test infrastructure assets to Robins AFB. |  |                                                                                                           |                  |              |             |               |
| This program is in Budget Activity 7, Operational System Development. 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. Program Change Summary (\$ in Millions)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | FY 2013                                                                                                   | FY 2014          | FY 2015 Base | FY 2015 OCO | FY 2015 Total |
| Previous President's Budget                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | 24.241                                                                                                    | 13.248           | 26.966       | -           | 26.966        |
| Current President's Budget                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | 23.566                                                                                                    | 23.148           | -            | -           | -             |
| Total Adjustments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | -0.675                                                                                                    | 9.900            | -26.966      | -           | -26.966       |
| • Congressional General Reductions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | -0.032                                                                                                    | -                |              |             |               |
| • Congressional Directed Reductions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | -                                                                                                         | -                |              |             |               |
| • Congressional Rescissions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | -                                                                                                         | -                |              |             |               |
| • Congressional Adds                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | -                                                                                                         | 9.900            |              |             |               |
| • Congressional Directed Transfers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | -                                                                                                         | -                |              |             |               |
| • Reprogrammings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | -                                                                                                         | -                |              |             |               |
| • SBIR/STTR Transfer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | -0.643                                                                                                    | -                |              |             |               |
| • Other Adjustments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | -                                                                                                         | -                | -26.966      | -           | -26.966       |

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| Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | Date: March 2014                                                                                          |         |         |
| Appropriation/Budget Activity<br>3600: Research, Development, Test & Evaluation, Air Force I BA 7:<br>Operational Systems Development                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | R-1 Program Element (Number/Name)<br>PE 0207581F I Joint Surveillance/Target Attack Radar System (JSTARS) |         |         |
| Change Summary Explanation<br>FY 2014: Congressional Appropriation Conference increase to retain T-3.<br>FY 2015: E-8C investment not funded in FY15 and beyond with decision to fund JSTARS Recapitalization                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                           |         |         |
| C. Accomplishments/Planned Programs (\$ in Millions)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | FY 2013                                                                                                   | FY 2014 | FY 2015 |
| Title: JSTARS Modernization<br><br>Description: Multiple efforts to develop and integrate system improvements, platform wide.<br><br>FY 2013 Accomplishments:<br>Completed JSRM radar receiver flight demo,completed Avionics DMS (Av-DMS) studies and issued a report, completed BNAU integration and test, and continued Flight Viability Board (FVB) mitigation and Spiral Development.<br><br>FY 2014 Plans:<br>Issue a final report on JSRM. Complete CENTRIX activities on Phase I Tech Refresh. Support JSTARS Recap risk reduction activities.<br><br>FY 2015 Plans:<br>N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | 0.720                                                                                                     | 9.148   | -       |
| Title: Test and Infrastructure<br><br>Description: Support test and infrastructure efforts including but not limited to Joint Test Force, JETS contract, CEIF, weight reduction studies, information assurance, range support, PL-2 security, T-3 aircraft, test labs, and facilities.<br><br>FY 2013 Accomplishments:<br>The Joint Test Force supported completion of the JSRM and PME DMS flight test programs. The Joint Test Force also assisted in the Enterprise Challenge exercises and participated in the BNAU and Multi-Agency Communications Capability (MACC) flight tests. The test labs supported the CNU retrofit program. Supported activities which were required for the fielding and installation of new and developing capabilities.<br><br>FY 2014 Plans:<br>The Joint Test Force and test labs support the CNU, PME DMS retrofit, and UONs as required. The test labs assist in the evaluation of the IR7 software release. The Congressional Appropriation Conference Committee appropriated \$9.900M to retain the T-3 test aircraft.<br><br>FY 2015 Plans:<br>N/A |  | 22.846                                                                                                    | 14.000  | -       |
| Accomplishments/Planned Programs Subtotals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | 23.566                                                                                                    | 23.148  | -       |

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| <b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Air Force                                                                                                                                                                                                          |                |                |                               |                              |                                                                                                                         |                |                | <b>Date:</b> March 2014 |                |                                   |                   |
| <b>Appropriation/Budget Activity</b><br>3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 7: Operational Systems Development</i>                                                                                                                                |                |                |                               |                              | <b>R-1 Program Element (Number/Name)</b><br>PE 0207581F <i>I Joint Surveillance/Target Attack Radar System (JSTARS)</i> |                |                |                         |                |                                   |                   |
| <b>D. Other Program Funding Summary (\$ in Millions)</b>                                                                                                                                                                                                                            |                |                |                               |                              |                                                                                                                         |                |                |                         |                |                                   |                   |
| <u>Line Item</u>                                                                                                                                                                                                                                                                    | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u><br><u>Base</u> | <u>FY 2015</u><br><u>OCO</u> | <u>FY 2015</u><br><u>Total</u>                                                                                          | <u>FY 2016</u> | <u>FY 2017</u> | <u>FY 2018</u>          | <u>FY 2019</u> | <u>Cost To</u><br><u>Complete</u> | <u>Total Cost</u> |
| • APAF: BA05: Line Item # E00800: E-8                                                                                                                                                                                                                                               | 48.811         | 48.078         | -                             | -                            | -                                                                                                                       | -              | -              | -                       | -              | Continuing                        | Continuing        |
| <b>Remarks</b>                                                                                                                                                                                                                                                                      |                |                |                               |                              |                                                                                                                         |                |                |                         |                |                                   |                   |
| <b>E. Acquisition Strategy</b><br>Most major programs will be sole source to Northrop Grumman Corp. in Melbourne, Florida and Norwalk, Connecticut. Trainer programs are sole source to Rockwell Collins in Sterling, Virginia.                                                     |                |                |                               |                              |                                                                                                                         |                |                |                         |                |                                   |                   |
| <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-4, RDT&E Schedule Profile: PB 2015 Air Force

Date: March 2014

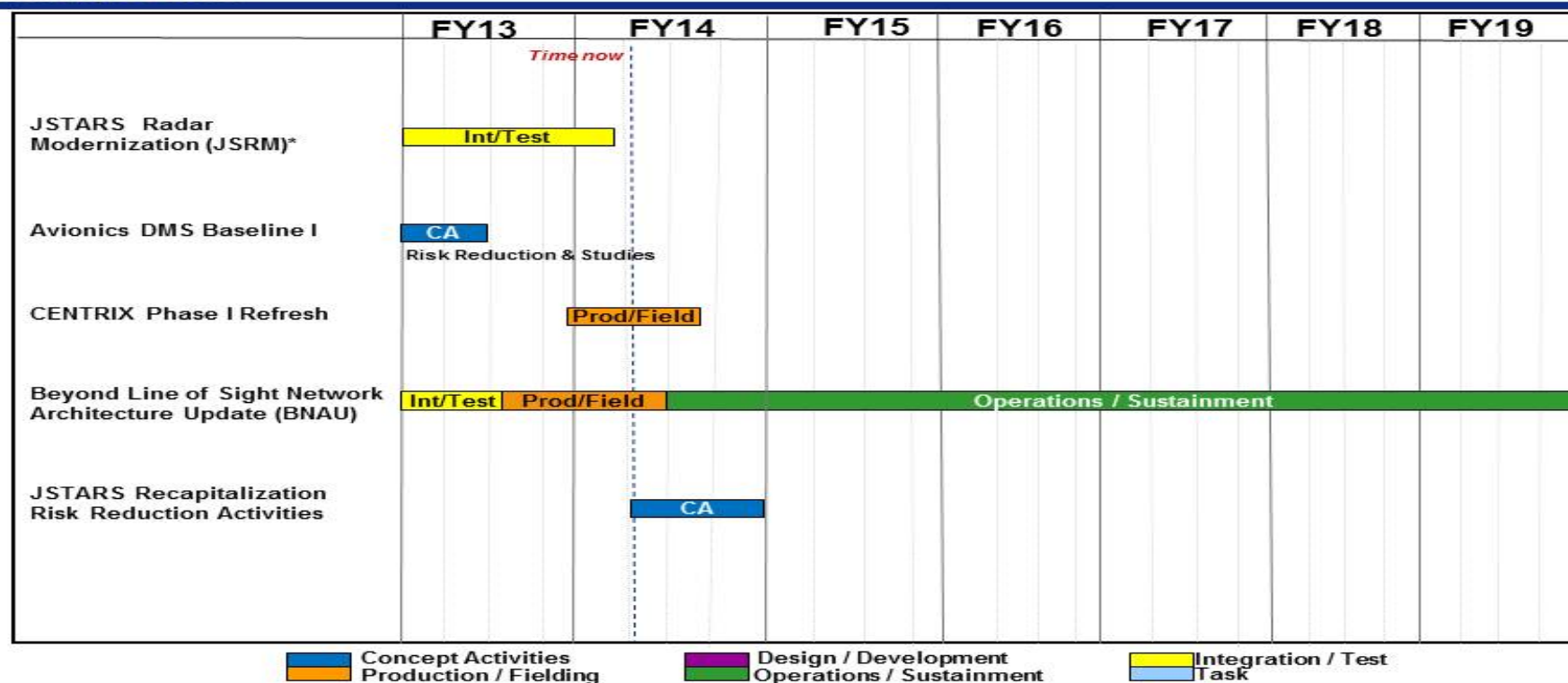
Appropriation/Budget Activity  
3600 / 7

R-1 Program Element (Number/Name)  
PE 0207581F / Joint Surveillance/Target  
Attack Radar System (JSTARS)

Project (Number/Name)  
670003 / JSTARS



## JSTARS Modernization Program Schedule



\*Demonstrations — no follow-on production  
As of: 11 Feb 14