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| Exhibit R-2, RDT&E Budget Item Justification | DATE February 2007 |
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| BUDGET ACTIVITY 07 Operational System Development | PE NUMBER AND TITLE 0207581F JOINT STARS |
|--|---|

| Cost (\$ in Millions) | FY 2006 Actual | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | FY 2010 Estimate | FY 2011 Estimate | FY 2012 Estimate | FY 2013 Estimate | Cost to Complete | Total |
|---------------------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-------|
| Total Program Element (PE) Cost | 110.852 | 155.615 | 65.924 | 71.128 | 50.046 | 37.222 | 37.970 | 38.239 | Continuing | TBD |
| 0003 JSTARS | 110.852 | 155.615 | 65.924 | 71.128 | 50.046 | 37.222 | 37.970 | 38.239 | Continuing | TBD |

(U) A. Mission Description and Budget Item Justification

The Joint Surveillance Target Attack Radar System (Joint STARS) program produces the world's premier airborne ground surveillance platform, meeting joint combat capability requirements. The 707-based E-8C Joint STARS aircraft provides radar-derived all-weather surveillance and targeting information on moving and stationary ground targets, slowly moving rotary and fixed wing aircraft, and rotating antennas. Joint STARS provides target information for matching direct attack aircraft, standoff weapons, and ground-based attack assets against selected targets, and can be cued by other intelligence, surveillance, and reconnaissance (ISR) and target acquisition systems. This capability enables air and ground commanders to effectively make and execute battle decisions, and helps achieve predictive battlespace 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 Command/Control and ISR (C2ISR), Network Centric Operations Capabilities, and interoperability with Joint Service, allied, and coalition systems. These efforts include, but are not limited to, Re-Engining, manned and unmanned platforms, space data links, advanced Battle-Management Command, Control and Communications (BMC3) concepts, ISR Constellation, Air Moving Target Indicator (AMTI), Ground Moving Target Indicator (GMTI), Joint Air to Surface Standoff Missile (JASSM-Maritime Interdiction), Advanced Radar Modes (ARM), Enhanced Synthetic Aperture Radar (ESAR), Mode 5/S, Network Centric Collaborative Targeting (NCCT), Interim Capability for Airborne Networking (ICAN), Enhanced Land/Maritime Mode (ELMM), Blue Force Tracker/Force XXI Battle Command Brigade and Below (FBCB2) and other large airborne platform integration efforts including Affordable Moving Surface Target Engagement (AMSTE), weapons guidance capabilities, self defense capabilities, radar, SAR, and aircraft performance improvements. These efforts rely on the test infrastructure provided by the Joint STARS Test Support (JETS). JETS includes a dedicated test aircraft, laboratories, and support facilities used by the Joint STARS Test Force (JTF) to conduct RDT&E activities. Training and support systems development efforts (included but not limited to Weapon Systems Trainer (WST), Navigator Training Station (NTS), and Mission Crew Trainer (MCT)). Also included in this program element is Communication Computer Netcentric Upgrade (CCNU) which will address Prime Mission Equipment (PME), Diminishing Manufacturing Sources (DMS) issues including but not limited to CNS/ATM (8.33 kHz VHF spiral). The result is greater mission capability, higher mission reliability, and maximum weapon system availability. The Joint STARS program will coordinate with and participate in projects developing international standards (including NATO standards) to ensure joint, allied, and coalition interoperability such as Attack Support Upgrade (ASU) Link 16 enhancements which evolve JSTARS into a controlling unit with full battle management capabilities.

Re-Engining - Provides the JSTARS E-8 aircraft additional range and time on station, improved fuel economy, time to climb and reliability. Includes non-recurring engineering, flight test, MIL-STD qualification, and flight data analysis.

This program is in Budget Activity 7, Operational Systems Development, due to efforts supporting a post-Milestone III operational weapon system.

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0207581F JOINT STARS

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

| | <u>FY 2006</u> | <u>FY 2007</u> | <u>FY 2008</u> | <u>FY 2009</u> |
|---|----------------|----------------|----------------|----------------|
| (U) Previous President's Budget | 104.321 | 152.696 | 100.538 | 57.048 |
| (U) Current PBR/President's Budget | 110.852 | 155.615 | 65.924 | 71.128 |
| (U) Total Adjustments | 6.531 | 2.919 | | |
| (U) Congressional Program Reductions | | -0.091 | | |
| Congressional Rescissions | | -0.590 | | |
| Congressional Increases | | 3.600 | | |
| Reprogrammings | 9.091 | | | |
| SBIR/STTR Transfer | -2.560 | | | |
| (U) <u>Significant Program Changes:</u> | | | | |
| - FY06 reprogrammed \$9.091 for ELMM development | | | | |
| - FY07 Congressional add to CNS/ATM for \$3.6M | | | | |
| - FY08 & 09 adjustments made to rephase Re-engining production and terminate CNS/ATM development. | | | | |

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Exhibit R-2a, RDT&E Project Justification

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|--|-------------------|---------------------|---------------------|---------------------|---|---------------------|---------------------|---|---------------------|-------|
| BUDGET ACTIVITY 07 Operational System Development | | | | | PE NUMBER AND TITLE 0207581F JOINT STARS | | | PROJECT NUMBER AND TITLE 0003 JSTARS | | |
| Cost (\$ in Millions) | FY 2006 Actual | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | FY 2010 Estimate | FY 2011 Estimate | FY 2012 Estimate | FY 2013 Estimate | Cost to Complete | Total |
| 0003 JSTARS | 110.852 | 155.615 | 65.924 | 71.128 | 50.046 | 37.222 | 37.970 | 38.239 | Continuing | TBD |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

(U) A. Mission Description and Budget Item Justification

The Joint Surveillance Target Attack Radar System (Joint STARS) program produces the world's premier airborne ground surveillance platform, meeting joint combat capability requirements. The 707-based E-8C Joint STARS aircraft provides radar-derived all-weather surveillance and targeting information on moving and stationary ground targets, slowly moving rotary and fixed wing aircraft, and rotating antennas. Joint STARS provides target information for matching direct attack aircraft, standoff weapons, and ground-based attack assets against selected targets, and can be cued by other intelligence, surveillance, and reconnaissance (ISR) and target acquisition systems. This capability enables air and ground commanders to effectively make and execute battle decisions, and helps achieve predictive battlespace 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 Command/Control and ISR (C2ISR), Network Centric Operations Capabilities, and interoperability with Joint Service, allied, and coalition systems. These efforts include, but are not limited to, Re-Engining, manned and unmanned platforms, space data links, advanced Battle-Management Command, Control and Communications (BMC3) concepts, ISR Constellation, Air Moving Target Indicator (AMTI), Ground Moving Target Indicator (GMTI), Joint Air to Surface Standoff Missile (JASSM-Maritime Interdiction), Advanced Radar Modes (ARM), Enhanced Synthetic Aperture Radar (ESAR), Mode 5/S, Network Centric Collaborative Targeting (NCCT), Interim Capability for Airborne Networking (ICAN), Enhanced Land/Maritime Mode (ELMM), Blue Force Tracker/Force XXI Battle Command Brigade and Below (FBCB2) and other large airborne platform integration efforts including Affordable Moving Surface Target Engagement (AMSTE), weapons guidance capabilities, self defense capabilities, radar, SAR, and aircraft performance improvements. These efforts rely on the test infrastructure provided by the Joint STARS Test Support (JETS). JETS includes a dedicated test aircraft, laboratories, and support facilities used by the Joint STARS Test Force (JTF) to conduct RDT&E activities. Training and support systems development efforts (included but not limited to Weapon Systems Trainer (WST), Navigator Training Station (NTS), and Mission Crew Trainer (MCT)). Also included in this program element is Communication Computer Netcentric Upgrade (CCNU) which will address Prime Mission Equipment (PME), Diminishing Manufacturing Sources (DMS) issues including but not limited to CNS/ATM (8.33 kHz VHF spiral). The result is greater mission capability, higher mission reliability, and maximum weapon system availability. The Joint STARS program will coordinate with and participate in projects developing international standards (including NATO standards) to ensure joint, allied, and coalition interoperability such as Attack Support Upgrade (ASU) Link 16 enhancements which evolve JSTARS into a controlling unit with full battle management capabilities.

Re-Engining - Provides the JSTARS E-8 aircraft additional range and time on station, improved fuel economy, time to climb and reliability. Includes non-recurring engineering, flight test, MIL-STD qualification, and flight data analysis.

This program is in Budget Activity 7, Operational Systems Development, due to efforts supporting a post-Milestone III operational weapon system.

Exhibit R-2a, RDT&E Project Justification

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| | | |
|--|---|---|
| BUDGET ACTIVITY 07 Operational System Development | PE NUMBER AND TITLE 0207581F JOINT STARS | PROJECT NUMBER AND TITLE 0003 JSTARS |
|--|---|---|

| (U) B. Accomplishments/Planned Program (\$ in Millions) | <u>FY 2006</u> | <u>FY 2007</u> | <u>FY 2008</u> | <u>FY 2009</u> |
|---|----------------|----------------|----------------|----------------|
| (U) Spiral Development, Kill Chain and Integration/Analysis, Interoperability (including but not limited to Weapons Guidance, Wide Area Tracker, Automatic Target Recognition, NCCT, ICAN, ELMM, FBCB2, AFMTT, CCNU, Find-Fix-Target-Track-Engage-Assess (F2T2EA), International, Inverse Synthetic Aperture ISAR), Diminishing Manufacture Sources (DMS) etc.) | 14.108 | 3.918 | 3.744 | 3.010 |
| (U) Communications & Network Upgrade (CNU)(Joint Tactical Radio System (JTRS)) | | | 7.059 | 12.912 |
| (U) Affordable Moving Surface Target Engagement (AMSTE) | | 41.238 | 4.000 | |
| (U) Communication, Navigation, and Surveillance/Air Traffic Management (CNS/ATM) formerly Global Air Traffic Mgmt (GATM) (i.e.; TCAS, Mode S, 8.33kHz VHF,etc.) | 27.328 | 35.157 | | |
| (U) Link 16 ASU support, connectivity efforts, etc. | 14.923 | 11.495 | | |
| (U) Test and Infrastructure Effort (including but not limited to Joint Test Force, JSTARS Extended Test Support contract, Information Assurance, range support, PL-2 security, support of T-3 test aircraft, test labs, etc.) | 29.093 | 32.844 | 31.357 | 31.162 |
| (U) Re-Engining | 12.500 | 30.963 | 19.764 | 14.438 |
| (U) JASSM-MI | | | | 9.606 |
| (U) Advanced Radar Modes (ARM) (previously under Spiral Development) - Phase I (including but not limited to Swath SAR, Intelligent Band Width Compression (IBC) and Enhanced Synthetic Aperture Radar (ESAR)). | 12.900 | | | |
| (U) Total Cost | 110.852 | 155.615 | 65.924 | 71.128 |

| (U) C. Other Program Funding Summary (\$ in Millions) | <u>FY 2006</u> | <u>FY 2007</u> | <u>FY 2008</u> | <u>FY 2009</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> | <u>FY 2013</u> | <u>Cost to Complete</u> | <u>Total Cost</u> |
|--|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------------|-------------------|
| | <u>Actual</u> | <u>Estimate</u> | | |
| (U) Modifications, BP11 (PE 0207581F) | 34.594 | 137.563 | 79.689 | 81.420 | 202.149 | 212.088 | 142.002 | 30.816 | Continuing | TBD |
| (U) Spares, BP16 (PE 0207581F) | 0.584 | 0.895 | 1.329 | 1.440 | 1.474 | 1.494 | 1.524 | 1.554 | Continuing | TBD |

(U) D. Acquisition Strategy
The AF will continue development for various fleetwide modifications throughout the life of the Joint STARS weapon system.

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Exhibit R-3, RDT&E Project Cost Analysis

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| BUDGET ACTIVITY | | | | | | | | | | PE NUMBER AND TITLE | | | | | PROJECT NUMBER AND TITLE | | | | |
|---|---|---|------------------------------------|---------------------|---------------------------|---------------------|---------------------------|---------------------|---------------------------|-----------------------------|---------------------------|-------------------------|-------------------|---------------------------------|--------------------------|--|--|--|--|
| 07 Operational System Development | | | | | | | | | | 0207581F JOINT STARS | | | | | 0003 JSTARS | | | | |
| (U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions) | <u>Contract Method & Type</u> | <u>Performing Activity & Location</u> | <u>Total Prior to FY 2006 Cost</u> | <u>FY 2006 Cost</u> | <u>FY 2006 Award Date</u> | <u>FY 2007 Cost</u> | <u>FY 2007 Award Date</u> | <u>FY 2008 Cost</u> | <u>FY 2008 Award Date</u> | <u>FY 2009 Cost</u> | <u>FY 2009 Award Date</u> | <u>Cost to Complete</u> | <u>Total Cost</u> | <u>Target Value of Contract</u> | | | | | |
| (U) Product Development | | | | | | | | | | | | | | | | | | | |
| ASU | SS/CPAF | HAFB, MA | 9.993 | 14.923 | Nov-05 | 11.495 | Nov-06 | | | | | | 36.411 | TBD | | | | | |
| CNS/ATM (GATM) | Various | HAFB, MA | 62.437 | 27.328 | Nov-05 | 35.157 | Nov-06 | | | | | | 124.922 | TBD | | | | | |
| Spiral Development | Various | Various | | 12.642 | Nov-05 | 3.918 | Nov-06 | 3.744 | Nov-07 | 3.010 | Nov-08 | Continuing | TBD | TBD | | | | | |
| Communications & Network Upgrade (CNU)(Joint Tactical Radio System (JTRS)) | TBD | TBD | | | | | | 7.059 | | 12.912 | | Continuing | TBD | | | | | | |
| AMSTE | Various | Various | | | | 41.238 | Dec-06 | 4.000 | Oct-07 | | | | 45.238 | TBD | | | | | |
| JASSM-MI | TBD | HAFB, MA | | | | | | | | 9.606 | | Continuing | TBD | TBD | | | | | |
| Advanced Radar Modes (ARM) - Phase I | Various | Various | | 12.402 | Dec-06 | | | | | | | | 12.402 | 12.402 | | | | | |
| Subtotal Product Development | | | 72.430 | 67.295 | | 91.808 | | 14.803 | | 25.528 | | Continuing | TBD | TBD | | | | | |
| Remarks: | Where Various Contract Method & Types take place, earliest date funds will be obligated is noted. | | | | | | | | | | | | | | | | | | |
| (U) Support | | | | | | | | | | | | | | | | | | | |
| SPO Ops Support | Various | HAFB, MA | | 2.066 | Oct-05 | 0.000 | Oct-06 | 0.000 | Oct-07 | 0.000 | Oct-08 | Continuing | TBD | TBD | | | | | |
| Subtotal Support | | | 0.000 | 2.066 | | 0.000 | | 0.000 | | 0.000 | | Continuing | TBD | TBD | | | | | |
| Remarks: | Where Various Contract Method & Types take place, earliest date funds will be obligated is noted. | | | | | | | | | | | | | | | | | | |
| (U) Test & Evaluation | | | | | | | | | | | | | | | | | | | |
| E-8C JSTARS Ext. Test Spt (JETS) | Various | Various | | 19.907 | Oct-05 | 23.534 | Nov-06 | 21.362 | Nov-07 | 21.141 | Nov-08 | Continuing | TBD | TBD | | | | | |
| JTF Test Ops/Support | Various | Various | | 7.086 | Nov-05 | 7.510 | Nov-06 | 7.795 | Nov-07 | 7.721 | Nov-08 | Continuing | TBD | TBD | | | | | |
| PL-2 | Various | Various | | 2.100 | Oct-05 | 1.800 | Nov-06 | 2.200 | Nov-07 | 2.300 | Nov-08 | Continuing | TBD | TBD | | | | | |
| Subtotal Test & Evaluation | | | 0.000 | 29.093 | | 32.844 | | 31.357 | | 31.162 | | Continuing | TBD | TBD | | | | | |
| Remarks: | Where Various Contract Method & Types take place, earliest date funds will be obligated is noted. | | | | | | | | | | | | | | | | | | |
| (U) Management | | | | | | | | | | | | | | | | | | | |
| Integration & Analysis | | | | 0.380 | Oct-05 | 0.000 | Oct-06 | 0.000 | Oct-07 | 0.000 | Oct-08 | Continuing | TBD | TBD | | | | | |
| Subtotal Management | | | 0.000 | 0.380 | | 0.000 | | 0.000 | | 0.000 | | Continuing | TBD | TBD | | | | | |
| Remarks: | | | | | | | | | | | | | | | | | | | |
| (U) Re-Engining | | | | | | | | | | | | | | | | | | | |
| Re-Engining | TBD | TBD | | 12.018 | Jan-07 | 30.963 | Jan-07 | 19.764 | Jan-08 | 14.438 | Jan-09 | Continuing | TBD | TBD | | | | | |
| Subtotal Re-Engining | | | 0.000 | 12.018 | | 30.963 | | 19.764 | | 14.438 | | Continuing | TBD | TBD | | | | | |
| Remarks: | Where Various Contract Method & Types take place, earliest date funds will be obligated is noted. | | | | | | | | | | | | | | | | | | |
| (U) Total Cost | | | 72.430 | 110.852 | | 155.615 | | 65.924 | | 71.128 | | Continuing | TBD | TBD | | | | | |

Exhibit R-4, RDT&E Schedule Profile

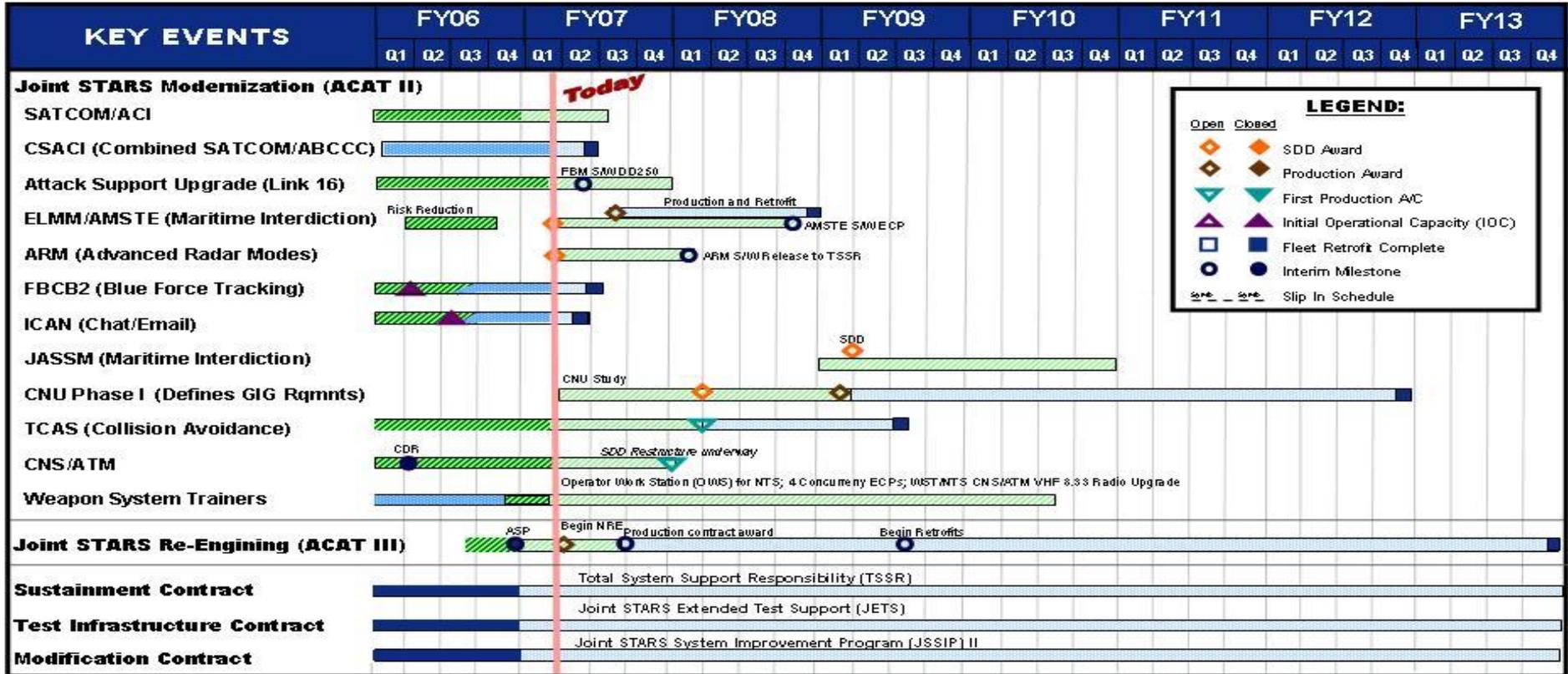
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BUDGET ACTIVITY
07 Operational System Development

PE NUMBER AND TITLE
0207581F JOINT STARS

PROJECT NUMBER AND TITLE
0003 JSTARS

Joint STARS Program Schedule



LEGEND:

| | | |
|------|--------|------------------------------------|
| Open | Closed | |
| | | SDD Award |
| | | Production Award |
| | | First Production A/C |
| | | Initial Operational Capacity (IOC) |
| | | Fleet Retrofit Complete |
| | | Interim Milestone |
| | | Slip In Schedule |

ACRONYM KEY:

| | | |
|---|---|---|
| AMSTE: Affordable Moving Surface Target Engagement | ELMM: Enhanced Land-Maritime Mode | TSSR: Total System Support Responsibility |
| CNS/ATM: Communications, Navigation, Surveillance, and Air Traffic Management | FBM: Full Battle Management | WST: Weapon System Trainer |
| CNU: Communications & Network Upgrade (JTRS, FAB-T, MP-CDL) | FBCB2: Force Battle Command & Below | MP-RTIP: Multi-Purpose Radar Technology Insertion Program |
| CSACI: Combined SATCOM/ABCCC Capability Integration | ICA: Interim Capability for Airborne Networking | |
| | JASSIM: Joint Air to Surface Standoff Missile | |
| | TCAS: Traffic Alert & Collision Avoidance Sys | |

Development/Demo Phase

Retrofit Phase

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| Exhibit R-4a, RDT&E Schedule Detail | DATE February 2007 |
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| BUDGET ACTIVITY 07 Operational System Development | PE NUMBER AND TITLE 0207581F JOINT STARS | PROJECT NUMBER AND TITLE 0003 JSTARS |
|---|--|--|

| | <u>FY 2006</u> | <u>FY 2007</u> | <u>FY 2008</u> | <u>FY 2009</u> |
|---|----------------|----------------|----------------|----------------|
| (U) Schedule Profile | | | | |
| (U) CSACI Retrofit Complete | | 2Q | | |
| (U) ASU Full Battle Management, S/W DD250 | | 4Q | | |
| (U) Spiral Development ELMM SDD Risk Reduction Contract Award | 1Q | | | |
| (U) Spiral Development - ELMM SDD Contract Award | | 1Q | | |
| (U) ELMM/AMSTE Production Contract Award | | 3Q | | |
| (U) AMSTE S/W Release to TSSR | | | 4Q | |
| (U) AMSTE Fleet Retrofit Complete | | | 4Q | |
| (U) ARM Phase I Contract Award | | 1Q | | |
| (U) JASSM-MI SDD Contract Award | | | | 2Q |
| (U) FBCB2 Complete | | 3Q | | |
| (U) ICAN Complete | | 2Q | | |
| (U) CNU Phase I SDD Award | | | 2Q | |
| (U) CNU Production Award | | | | 1Q |
| (U) CNS/ATM Critical Design Review | 1Q | | | |
| (U) CNS/ATM (TCAS) First A/C Retrofit | | | 2Q | |
| (U) CNS/ATM (8.33 kHz VHF) Initial Flight/Ground Readiness Review | | | 1Q | |
| (U) Re-engining Begin NRE | | 2Q | | |
| (U) Re-engining Production Award | | 3Q | | |
| (U) Re-engining Begin Retrofits | | | | 3Q |